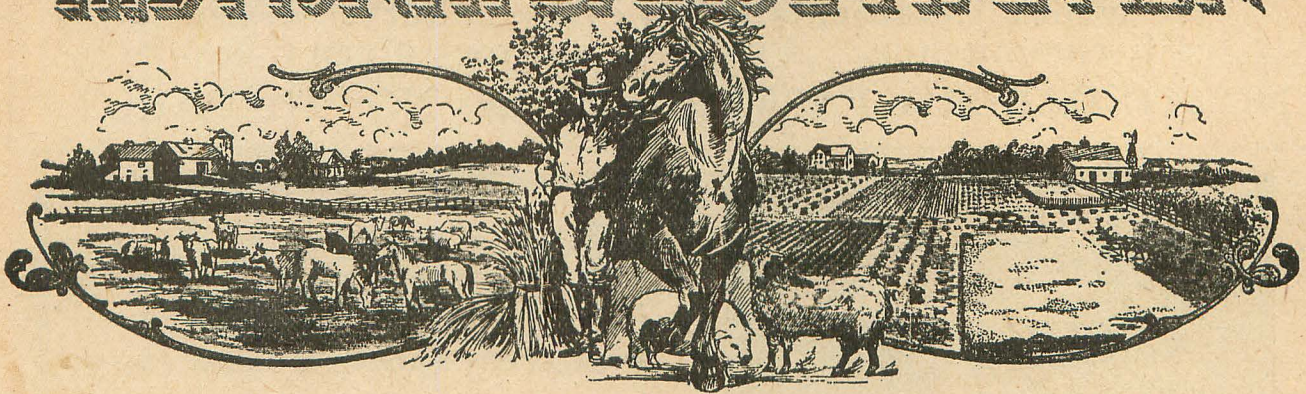


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THE NORTH DAKOTA FARMER

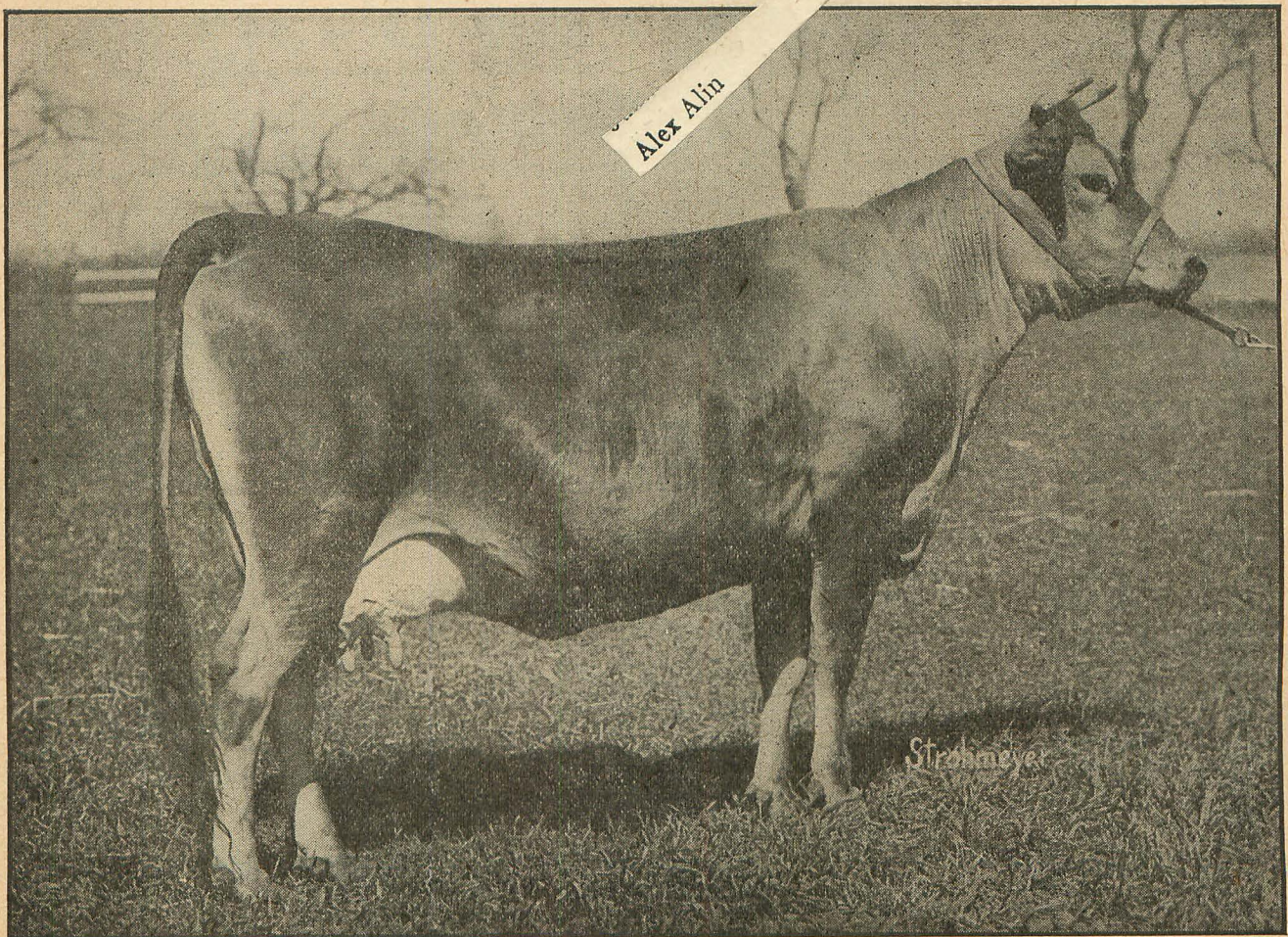


75 Cents A Year

Lisbon, N. D.

May 15, 1917

Vol. 18, No. 11



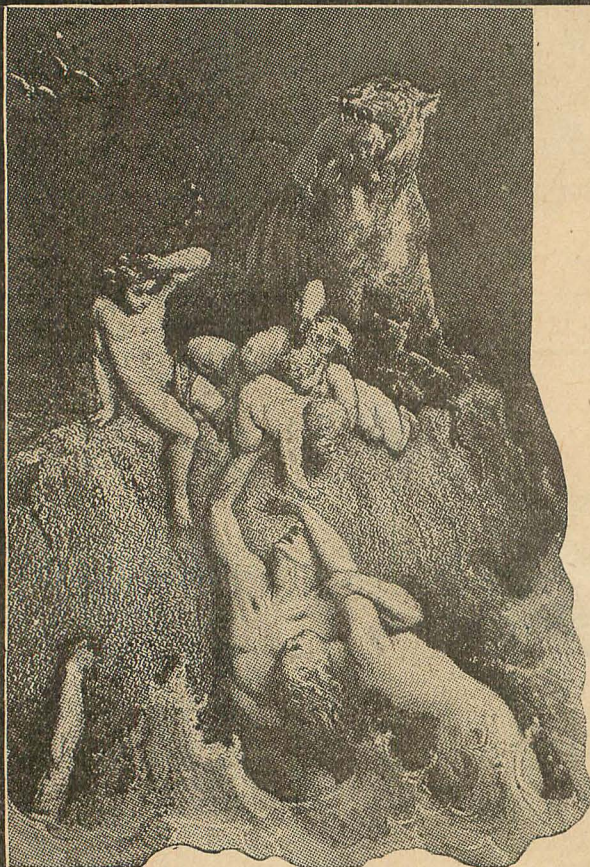
Lipsa 323967 is sired by Hood Farm Torono 35th and out of Alexie 201585. She is owned and was tested by R. L. Pike of Fairview Farm, Geneva, Ohio, and was bred by Hon. E. Stevens Henry, Rockville, Conn.

978.4
N814
Graham

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NORTH DAKOTA FARMER, LISBON, NORTH DAKOTA



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Dug Up From the Ruins of Ancient Chaldea

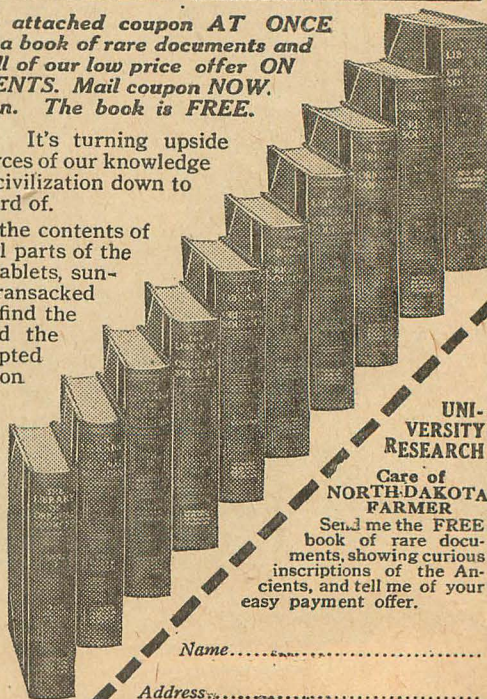
DO YOU KNOW that there has been dug up from the ruins of old Chaldea a complete story of the Flood—the same in every detail as Moses' account in Genesis—and that it was written thousands of years before his version appeared? Hardly one in a million has ever had an opportunity of seeing this startling story—**HAVE YOU?** But it is one of the many thousand curiously interesting accounts in

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THE NORTH DAKOTA FARMER

Vol. 18, No. 11

LISBON, N. D., MAY 15, 1917

75 Cents a Year

A Message from President Wilson

My Fellow Countrymen:

The entrance of our own beloved country into the grim and terrible war for democracy and human rights which has shaken the world creates so many problems of national life and action which call for immediate consideration and settlement that I hope you will permit me to address to you a few words of earnest counsel and appeal with regard to them.

We are rapidly putting our navy upon an effective war footing and are about to create and equip a great army, but these are the simplest parts of the great task to which we have addressed ourselves. There is not a single selfish element, so far as I can see, in the cause we are fighting for. We are fighting for what we believe and wish to be the rights of mankind and for the future peace and security of the world. To do this great thing worthily and successfully we must devote ourselves to the service without regard to profit or material advantage and with an energy and intelligence that will rise to the level of the enterprise itself. We must realize to the full how great the task is and how many things, how many kinds and elements of capacity and service and self-sacrifice, it involves.

These, then, are the things we must do, and do well, besides fighting,—the things without which mere fighting would be fruitless.

We must supply abundant food for ourselves and for our armies and our seamen not only, but also for a large part of the nations with whom we have now made common cause, in whose support and by whose sides we shall be fighting. * * * *

It is evident to every thinking man that our industries, on the farms, in the shipyards, in the mines, in the factories, must be made more prolific and more efficient than ever and that they must be more economically managed and better adapted to the particular requirements of our task than they have been; and what I want to say is that the men and the women who devote their thought and their energy to these things will be serving the country and conducting the fight for peace and freedom just

as truly and just as effectively as the men on the battlefield or in the trenches. The industrial forces of the country, men and women alike, will be a great national, a great international, Service Army,—a notable and honored host engaged in the service of the nation and the world, the efficient friends and saviors of free men every-

THE FLAG GOES BY

Hats off!

Along the street there comes
A blare of bugles, a ruffle of drums,
A flash of color beneath the sky;
Hats off!

The flag is pa sing by!

Blue and crimson and white it shines
Over the steel-tipped, ordered lines;
Hats off!

The colors before us fly;
But more than the flag is passing by.

See fights and land fights, grim and great,

Fought to make and to save the State:
Weary marches and sinking ships;
Cheers of victory on dying lips;

Days of plenty and years of peace;
March of a strong land's swift increase;

Equal justice, right, and law,
Stately honor and reverend awe;

Sign of a nation, great and strong
Toward her people from foreign wrong:

Pride and glory and honor,—all
Live in the colors to stand or fall.

Hats off!

Along the street there comes
A blare of bugles, a ruffle of drums,
And loyal hearts are beating high;
Hats off!

The flag is passing by!

where. Thousands, nay, hundreds of thousands, of men otherwise liable to military service will of right and of necessity be excused from that service and assigned to the fundamental, sustaining work of the fields and factories and mines, and they will be as much part of the great patriotic forces of the nation as the men under fire.

I take the liberty, therefore, of addressing this word to the farmers of the country and to all who work on the farms: The supreme need of our own nation and of the nations with which we are cooperating is an abundance of supplies, and especially of food stuffs. The importance of an adequate food supply, especially for the present year, is superlative. Without abundant food, alike for the armies and the peoples now at war, the whole great enterprise upon which we have embarked will break down and fail. The world's food reserves are low. Not only during the present emergency but for some time after peace shall have come both our own people and a large proportion of the people of Europe must rely upon the harvests in America. Upon the farmers of this country, therefore, in large measure, rests the fate of the war and the fate of the nations. May the nation not count upon them to omit no step that will increase the production of their land or that will bring about the most effectual cooperation in the sale and distribution of their products? The time is short. It is of the most imperative importance that everything possible be done and done immediately to make sure of large harvests. I call upon young men and old alike and upon the able-bodied boys of the land to accept and act upon this duty,—to turn in hosts to the farms and make certain that no pains and no labor is lacking in this great matter. * * * *

The Government of the United States and the governments of the several states stand ready to cooperate. They will do everything possible to assist farmers in securing an adequate supply of seed, an adequate force of laborers when they are most needed, at harvest time, and the means of expediting shipments of fertilizers and farm machinery, as well as of the crops themselves when harvested. The course of trade shall be as unhampered as it is possible to make it and there shall be no unwarranted manipulation of the nation's food supply by those who handle it on its way to the consumer. This is our opportunity to demonstrate the efficiency of a great Democracy and we shall not fall short of it! * * * *

Let me suggest, also, that everyone who creates or cultivates a garden helps, and helps greatly, to solve the problem of the feeding of the nations;

and that every housewife who practices strict economy puts herself in the ranks of those who serve the nation. This is the time for America to correct her unpardonable fault of wastefulness and extravagance. Let every man and every woman assume the duty of careful, provident use and ex-

penditure as a public duty, as a dictate of patriotism which no one can now expect ever to be excused or forgiven for ignoring. * * *

The supreme test of the nation has come. We must all speak, act and serve together!

WOODROW WILSON.

Conservation of the Dairy Cow

By M. D. Munn, President National Dairy Council

No program of national preparedness for the impending food crisis in the event of war is wise nor complete without sharp emphasis on conserving and increasing our national stock of dairy cows.

We must, of course, bend all our efforts to the prevention of a war shortage in our food stuffs but when prices for beef begin to rise, dairy cat-

for any of his food, is in debt to his master for two years, and, upon payment, ceases to live, while the cow pays for her food daily as she goes.

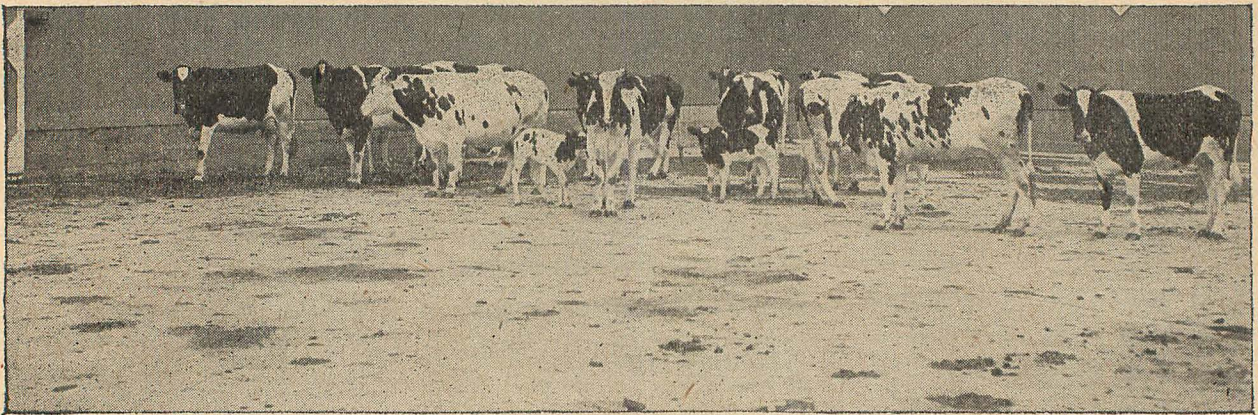
It seems to me, therefore, that in any program of preparedness in national food supply, first and foremost consideration should be given to this remarkable natural food-making machine, the dairy cow.

in history has the value of fat assumed so ominous a meaning.

A plentiful stock of dairy cows means not only the quickest, richest and most continuous transformation of feed into human food, but above all, it means a daily dependable supply of butterfat—the finest of all fats—and forestalls the possibility of such deep distress as is experienced in the shortage of fat by unhappy Germany.

A 2-year-old steer, ready for market, contains only about 280 pounds of total fat, while a fair dairy cow will produce in her 6000 pounds of milk 300 pounds of fat yearly for seven years, or a total of 2100 pounds of fat during her lifetime, as against a steer's 280 pounds of fat in his life.

Unless our people adopt, as to the food value of milk, the view expressed by the U. S. Department of Agriculture, the tendency of our farmers will be to quit dairying and to send their cows to the butcher rather than perform the irksome services without



The Dairy Cow is Mankind's Greatest Friend, She Produces Man's Best and Most Serviceable Food, and One of the Cheapest.

tle must not be slaughtered nor dairy feeds diverted to other uses.

The dairy cow is mankind's greatest friend. She produces man's best, most serviceable food, and one of the cheapest.

A 1200-pound steer, ready for market, contains only about 360 pounds of actual food. A dairy cow at two years of age begins to produce and yield daily thereafter about 900 pounds of edible nutrients in the year, and will continue to produce the same amount for seven years thereafter; that is, she produces during her actual life 6300 pounds of human food. In other words, it takes 17 steers to produce the same amount of human food as a dairy cow produces during her lifetime.

I am indebted for these figures to the University of Minnesota. And the further very pertinent statement is made that the steer, before he pays

On behalf of the consumer, the widest publicity should be given to the bulletin issued last week by the United States Department of Agriculture, dealing with the great food value and economy of milk and milk products, and showing milk to be an economical food even at a price of 15 cents per quart.

"In energy-giving power, one quart of milk is equal to 11 ounces of sirloin steak, or three-fourths of a pound of round steak, or eight and one-half eggs, or 10.7 ounces fowl," says the bulletin.

Our people should bear in mind, also, the significance of the heart-rending appeal made to the German Reichstag by Field Marshal von Hindenburg. He cries for fat—fat—fat!—fat for his soldiers and fat for the weakened people.

The fate of Germany may hang upon the question of fat. At no time

profit and often at a loss. In consequence our stock of dairy cattle is lower today per thousand population than it has been for forty years.

As a nation, we may well be alarmed over the certainty of further depletion, when further rises in the cost of feed and aggravated shortage of farm labor make the production of milk wholly unprofitable or a losing venture at the very time when milk, butterfat, and the products derived therefrom, should be the country's greatest safeguard and reliance.

Moreover, further retrogression in dairying means a shortage in animal manure, lowered soil-fertility, a lower yield per acre of cereal products, an excessive rise in the price of all food-stuffs coming from the soil, and a serious derangement of our economic life. It spells distress in its keenest form.

It appears to me, then, to be the

immediate duty of government to keep stable and stimulate dairy production by intensive education of the farmer, to the end that he may increase rather than decrease his stock of dairy cattle, and equally intensive education of the consumer as to the food value and relative economy of milk. If it becomes necessary to take governmental action to safeguard our food supplies, the first decree to

be issued, in my judgment, should be a peremptory prohibition of the slaughter of productive dairy cows, and our next concern should be an upward revision of the prices of milk based upon the cost of production and a fair profit to both producer and distributor.

Assured a rich supply of milk, plenty of butter and cheese, nations can laugh at starvation blockades.

of the crop into the crib or the silo. It is also a crop that the hogs will harvest without any waste. In fact, they will make more gains if allowed to do their own harvesting than if the corn is husked and fed in that way.

Now is the time to lay plans for having more than ever of North Dakota sunshine and North Dakota soil fertility converted into products that will serve mankind, whether it be for corn meal, grits, hominy, meat, pork, milk, butter, cheese, eggs, candy, syrup, starch, edible oil, soap, rubber, gun cotton, battleship protection, mattress stuffing, paper, alcohol for heat, light or power or the evening pipe. Or it may be for bolstering up a wabby wheat crop or to prepare the land for clover or alfalfa or trees. To do all this it is only necessary to plant corn, well bred, well selected, home grown, or at least North Dakota grown corn.

In the agitation for an increase in the production of wheat the question

Corn Raising and Rotation

In the Agitation for Increased Production Don't Give Up Rotation.

W. C. Palmer, A. C., Exp. Station

Corn is pre-eminently a rotation crop. It fits into any rotation and adds to the rotation. It produces more of their grain or forage than any other crop that can be brought into the rotation and it puts the land in shape to produce more of the other crops. It is safe to say that no crop adds so much to the rotation as corn with the exception of the legumes and it really takes corn to prepare the land so that the legumes will do the best.

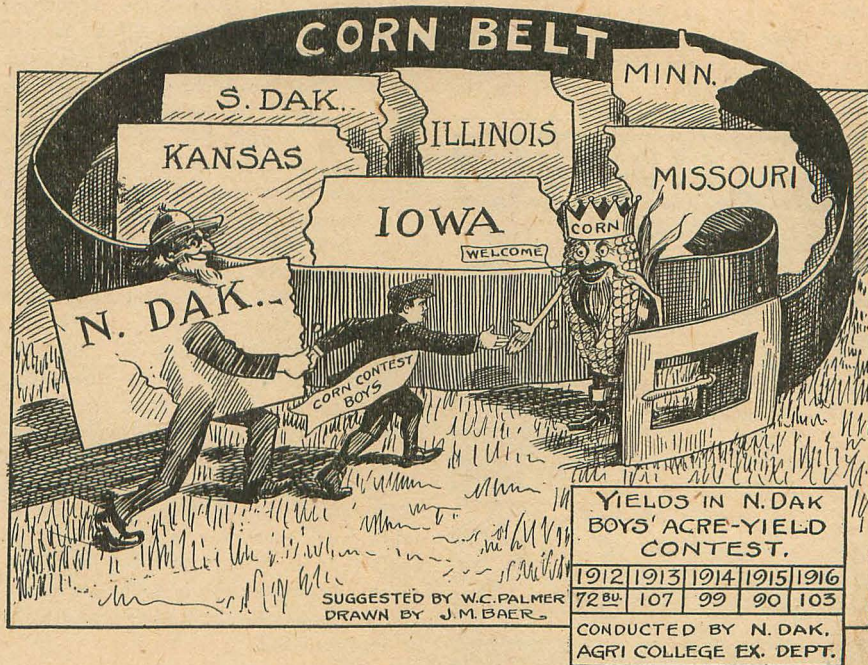
The one-crop system has passed from the Atlantic Coast to North Dakota and it is now time that North Dakota takes steps to rid the state of the ruinous one-crop system. Corn has been one of the crops introduced to break the back of the one-crop system in the states from Maine to North Dakota and the increase in corn acreage in North Dakota indicates that the North Dakota farmer is bringing corn to help solve the farm crops problem, the weed problem, the livestock problem, and the prosperity problem.

Corn can be used to start that rotation. A crop of corn grown every fourth year with wheat the other three will not decrease the yield of wheat. It has been found at the North Dakota Experiment Station that five bushels more wheat could be grown in the three wheat crops following corn than in four wheat crops. Thus the farmer had the corn crop and five bushels of wheat was thrown in for good measure. It is not often one gets something for nothing, but the corn crop in North Dakota comes mighty near doing that very thing.

The Indians looked upon corn as a gift of the gods. With them the planting and care of the corn and the selection of the seed was a religious duty. Everything else was secondary when the corn needed attention. The corn is really a wonder crop and well deserved a high place in the Indians' life but no more than in present day

agriculture. Corn has been the maker of states. It has a big work to do in North Dakota farming and will do it as fast as it is given the chance.

Corn is a distinctively American crop, a regular Yankee among crops. It adapts itself to almost any condition and makes the most of the con-



Let Us Keep North Dakota in the Corn Belt

ditions and produces a product from which nearly everything worth while can be made. When given a chance to adapt itself it is equally at home in Florida or North Dakota. Its nature of growth is such as to admit of cultivation without disturbing its growth. It uses practically the whole growing season, which makes it possible for well selected home grown corn to produce more grain than the grain crops and more fodder than the fodder crops.

Then, too, corn is a crop that can be handled with machinery from the preparing of the land to the putting

may well be raised—Should the rotation of crops be dropped? Director Cooper answers this question as follows: Agriculture as a whole, must be considered. It is a problem of increasing the total production of human and animal food. The increase in wheat should come as a result of a decrease in the acreage of oats and barley and the oats and barley acreage can well be further reduced and corn planted instead as the corn will produce more stock food per acre than will the oats and barley. Not only will the corn produce more food but it will also put the land in shape for

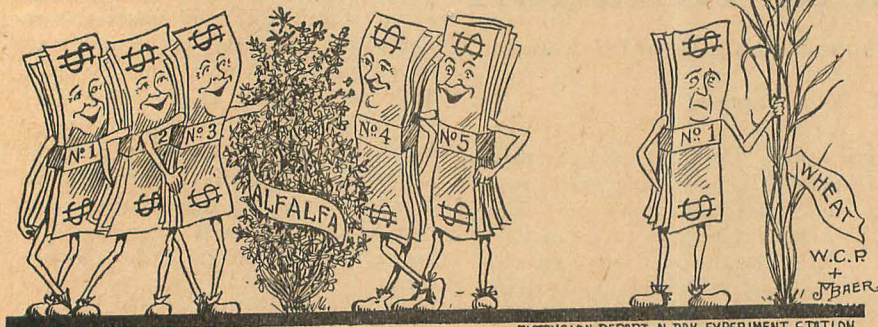
producing a larger crop of wheat next year. This brings out the importance of corn. It will increase the production both this year and next year. An acre in corn will produce as much food as one and one-fourth to one and

oats or barley this year. Corn can also be planted in place of summer fallowing. It leaves the land in just as good condition for producing a crop next year and gives a valuable crop at the same time. Increased

FIVE OR ONE-PROFIT CROPS

LEGEND:

1. Profit from Crop at Market Value.
2. Profit from Feeding Crop.
3. Profit from Manure.
4. Profit—Prepares Land for Other Crops.
5. Profit—Insurance—Most Sure to Produce a Crop.



EXTENSION DEPART. N. DAK. EXPERIMENT STATION

one-half acres in oats or barley and next year this acre will produce as much wheat as one and one-fourth to one and one-half acres that are in

production will likely be as important next year as this year. Alfalfa is also a very important crop. It is the greatest food producer of all the crops. The whole of the alfalfa plant is as nutritious pound for pound as the seeds of the other plants. The grass crops are important as they produce a fair amount of food with but little labor and they also clean the land of weeds and add organic matter to the soil. Livestock production should be increased. They produce some of the most important articles of food and clothing and they consume the crops that it is necessary to grow in the rotation in order to keep up the production of wheat. The rotating of the crops and the keeping of livestock make possible a better utilization of labor. It increases the amount of food that each unit of labor can produce. If production is to be increased the crops should be rotated and livestock increased.

arisen which seem to make of the utmost importance the production of the greatest possible yields of all crops in the country. In the northwest, where the crops are being planted, a great cry is being sounded by all public speakers and writers to increase the production of all food-stuffs for the sustenance of our own country and our allies in the war. This agitation is undoubtedly an act of patriotism for it surely will have some effect on the acreage planted this year.

Another matter of great importance in this connection is the supply of farm labor. Without adequate help it is impossible for farmers to carry on their operations in such a manner as to yield maximum returns. The agricultural press and the country in general have given this subject due notice. It occurred to me as I read the advertisements of several labor bureaus in a number of our farm papers calling for an immense number of farm laborers in Canada and offering special inducements to our people to start for that country at once that this is doing the farmers of the United States somewhat of an injustice. We are sorely in need of these laborers ourselves at the present time on account of the scarcity that is already in evidence and the more intensive methods of agriculture recommended.

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Yes Sir! That's what I sell from my 7 factories direct to you. The BEST roofing made at positively the lowest prices. I am a roofing expert—specializing in Roofing materials and supplies—and I guarantee to save you money, give you a better roofing and a written guarantee.

65c Per Roll for the best one ply roofing, 108 square feet, nails and cement included. No matter what you need in prepared roofing, I can supply you direct at net factory prices.

Send for Big Roofing Book and FREE Samples and be convinced. Now is the time to cover your roof—so send for the book today, sure!

W. E. McCARRON & CO.
112 Dickey Bldg., Chicago
Formerly the Central Roofing & Supply Co.

WARNING
Don't buy a roll of roofing from anybody, anywhere, (including myself), unless you get a written guarantee. Don't take anybody's word about quality, make them prove their claims.

W. E. McCarron

These are 20 Year GUARANTEED ROOFS



OUR "SHEPHERD'S FRIEND AND GUIDE" SENT FREE!

Gives Modern Methods of Handling Sheep, how to Select, Breed, Feed and Market them. Money wouldn't buy this Book, if you could not get another. Sent Absolutely Free. Write for our Wool price list. Shows how to sell direct and get 2 cents to 3 cents a pound more for your Wool.

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RIGHT TO THE POINT

The North Dakota Farmer:

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This engine was in daily use in our plant until replaced by electric motors.

Just What You Want For GRINDING FEED, SAWING WOOD, PUMPING, SILAGE CUTTING, ETC.

Cost \$300 **\$70** Takes It

If interested address
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Lisbon, North Dakota

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We rebores and ream all sizes of auto and gas engine cylinders fitting same with larger pistons and rings. We weld all Metals. Our machine shop is equipped to handle both large and small work. Send your next job to.

DAKOTA WELDING AND MANUFACTURING COMPANY

203-5th St. N. : : : FARGO, NORTH DAKOTA : : : Telephone 926

It, therefore, seems as tho it would show more loyalty and patriotism to our country for the papers to give less publicity to things of such nature and confine themselves to our own needs at this time, for we must feed our own people before we can feed others.

Davenport, N. D. C. H. Plath.
April 24, 1917.

We are pleased to have you express your views regarding the need of increased production and also the retention of our laborers on this side of the line. The North Dakota Farmer has been carrying advertisements sent out by the Dominion of Canada advertising for laborers. We had no reason for declining them, as we certainly would had they advertised patent medicines, liquor or tobacco. It is unfortunate that our government does not vie with that of Canada in securing laborers for our farms. We shall be very glad to pass on to our readers your patriotic suggestions.

HOW TO MAKE AN ICELESS REFRIGERATOR

Make a screened case three and one-half feet high with the other dimensions 12 by 15 inches. If a solid top is used, simply place the water pan on this. Otherwise fit the pan closely into the opening of the top frame and support it by 1-inch cleats fastened to the inside of the frame. Place two movable shelves in the frame, 12 to 15 inches apart. Use a biscuit pan 12 by 14 inches on the top to hold the water, and where the refrigerator is to be used indoors have the whole thing standing in a large pan to catch any drip. The pans and case may be painted white, allowed to dry, and then enameled. A covering of white Canton flannel should be made to fit the frame. Have the smooth side out and button the covering on the frame with buggy or automobile curtain hooks and eyes, arranged so that the door may be opened without unfastening these hooks. This can easily be done by putting one row of hooks on the edge of the door near the latch and the other just opposite the opening with the hem on each side extended far enough to cover the crack at the edge of the door, so as to keep out the warm, outside air and retain the cooled air. This dress or covering will have to be hooked around the top edge also. Two double strips one-half the width of each side should be sewed on the top of each side covering, and allowed to extend over

about two and one-half or three inches in the pan of water. The bottom of the covering should extend into the lower pan.

Place the refrigerator in a shady place where air will circulate around it freely. If buttons and buttonholes are used on the Canton flannel instead of buggy hooks, the cost will be reduced. On dry, hot days a temperature of 50 degrees has been known to be obtained in the cooler.

GOVERNMENT CROP REPORT

A summary of the May crop report for the State of North Dakota and for the United States, as compiled by the Bureau of Crop Estimates (and transmitted thru the Weather Bureau), U. S. Department of Agriculture, is as follows:

Winter Wheat

United States: May 1 forecast, 366,000,000 bushels; production last year (final estimate), 481,744,000; two years ago, 673,947,000; 1910-14 average, 494,654,000 bushels.

Rye.

State: May 1 forecast,.....bushels; production last year (final estimate), 4,655,000; two years ago, 4,200,000 bushels.

United States: May 1 forecast, 60,700,000; production last year (final estimate), 47,383,000; two years ago, 54,050,000 bushels.

Meadows

State: May 1 condition 89, compared with the ten-year average of 82.

United States: May 1 condition 88.7, compared with the ten-year average of 87.9.

Pasture

State: May 1 condition 81, compared with the ten-year average of 80.

United States: May 1 condition 81.9, compared with the ten-year average of 85.2.

Spring Plowing

State: Per cent done to May 1, 1917, estimated 59 per cent, compared with 41 May 1 last year and 47, the ten-year average.

United States: Per cent done to May 1, 1917, estimated 72.4 per cent compared with 70.4 per cent on May 1 last year and 69.3, the ten-year average.

Spring Planting

State: Per cent done to May 1, 1917, estimated 44 per cent, compared with 24 May 1 last year and 48, the ten-year average.

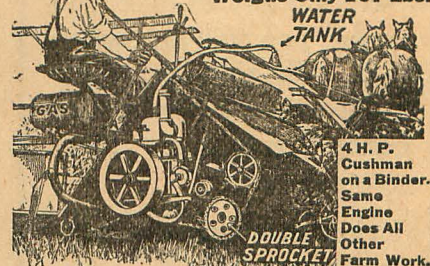
United States: Per cent done to May 1, 1917, estimated 58.7 per cent, compared with 56.7 per cent on May 1 last year and 56.3, the ten-year average.

Hay

State: Old crop on farms May 1, estimated 355,000 tons, compared

Saves 2 Horses On the Binder

Weights Only 167 Lbs.



Cushman Binder Engine

For All Farm Work

The 4 H. P. Cushman is the original and successful Binder Engine. Thousands are in use every harvest—saving horseflesh and saving grain.

It saves a team, because engine operates sickle and all machinery of binder, leaving horses nothing to do but pull binder out of gear; also takes away side draft. Therefore, two horses easily handle 8-foot binder in heavy grain.

It saves the grain, because it runs at uniform, steady speed, putting grain on platform evenly, allowing platform and elevator canvas to deliver it to packers straight, and thus it is tied without loss, saving a large per cent of the natural waste of binder.

It saves the crop in a wet season, because slipping of bull wheel or slowing up of team does not stop the sickle, and it never clogs. You can cut wet grain same as dry.

It saves time because you can move right along all the time in heavy grain without killing the horses, and with no choking of sickle, elevators or packers.

It saves the binder, because it operates at same regular speed all the time—no jerking of machinery by quick stopping and starting of team or when bull wheel drops into a rut. That's what tears a binder to pieces. With a Cushman Engine your binder will last twice as long. Write for book with complete description.

CUSHMAN MOTOR WORKS, 881 N. 21st St. Lincoln, Neb.

We Pay Top Prices Always For Cream, Eggs and Poultry

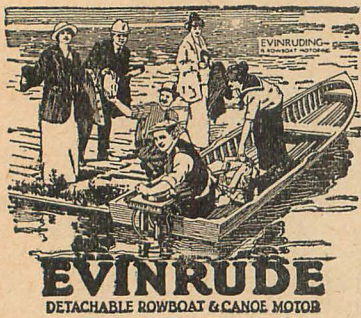
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—with family or friends—
are doubly enjoyable,
when there's an EVIN-
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United States: Old crops on farms May 1, estimated 12,500,000 tons, compared with 14,452,000 a year ago and 10,797,000 two years ago.

Prices

The first price given below is the average on May 1 this year, and the second, the average on May 1 last year.

State: Wheat, 226 and 106 cents per bushel. Corn, 132 and 71. Oats, 62 and 35. Potatoes, 212 and 64. Hay \$9.30 and \$6.70 per ton. Eggs, 27 and 15 cents per dozen.

United States: Wheat, 245.9 and 102.5 cents per bushel. Corn, 150.6 and 72.3 cents. Oats, 71.0 and 42.6 cents. Potatoes, 279.6 and 94.8 cents. Hay, \$14.44 and 12.22 per ton. Cotton, 18.9 and 11.5 cents per pound. Eggs, 30.0 and 18.1 cents per dozen.

RESOLUTIONS OF THE STATE EFFICIENCY COMMISSION

Be it resolved by the Efficiency Commission of North Dakota:

That the farmers of this state are commended for the great and patriotic efforts they have already made to increase the production of food supplies and they are urged to continue these efforts until the last possible acre is put into crop. We urge that an especial effort be made to break new land and sow it in flax and that each farmer put in as large a potato acreage as he can harvest without waste under normal conditions.

That the United States Government is urged to guarantee a fair minimum price for all agricultural

products for a fixed period of time in order that all the manifold risks of their occupation may not fall upon the farmers. Such minimum price should take into consideration not only the cost of production but also the decrease in fertility of the soil.

That farmers and stock men are urged not to sell or kill immature cattle, hogs, or sheep, and that lambs be carried over until next spring in order to get the wool clip.

That the national government is urged to regulate the buying and selling of farm products during war times so that speculation therein may be reduced to a minimum and that the hoarding of food materials for speculative purposes be restricted by law.

That the housewives of the State are urged to buy and to use only those amounts of food required for adequate nourishment of their families, to control waste in every possible manner and to live simply. They are especially urged to cooperate with the General Federation of Women's Clubs and other women's organizations in increasing efficiency and conserving the food supply of the nation.

That the national government is urged to prohibit absolutely the manufacture and sale of fermented and spirituous liquors for beverage purposes during the continuance of the war. The people of this state are willing to raise food for the nation, but draw the line on toiling early and late to raise grain to be used in making booze.

That farmers are urged to co-operate with the various county organizations of this commission in the distribution of the labor needed for harvesting and threshing. The supply of such labor when and where needed is to be the main endeavor of this commission but such endeavor will be useless without the hearty assistance of the farmers of the state.

That the railroads entering this state are urged to grant a low round fare rate to farm laborers and to give their assistance in securing a plentiful supply of such labor. They are further urged to furnish the use of their right-of-ways for garden purposes.*

That all the people of this state are urged to correspond now with their relatives and friends in the Eastern States, urging them to come to North Dakota for the harvest and threshing season and promising them good wages and good treatment.

That the people of our towns and cities are urged to render every possible assistance to the farmers of their neighborhood during the harvest and threshing season. We call attention to the fact that many men, women,

*The Northern Pacific has done so. Ed.

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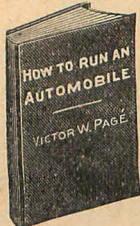
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boys and girls can well be spared from their usual vocations in stores, offices and homes at that time and can render a true service to their country by aiding in saving the crops of the state.

That the farmers are urged to cooperate with and accept assistance from all legitimate organizations in the state which are willing to assist in increasing the food production of the state in this national crisis. This is no time to gratify political or social dislikes but we must all work together for the great patriotic purpose of feeding the United States and its allies in war.

That the educational authorities of the state are urged to so regulate the term of rural and city schools that the children of the state may spend the busy season on the farm without loss of school opportunities. But parents are asked to remember that their children are more precious than crops or any material possessions and great care should be taken not to overwork the younger boys and girls at hard farm labor.

That we urge the people of the state to remain calm, to face their duties resolutely and to serve the nation with high and patriotic purpose. North Dakota has a mission of highest usefulness to perform in this year 1917. We urge that that mission be undertaken cheerfully and be carried out faithfully.

Efficiency Commission of N. D.

John H. Worst, President,

Oscar J. Seiler, Secretary.

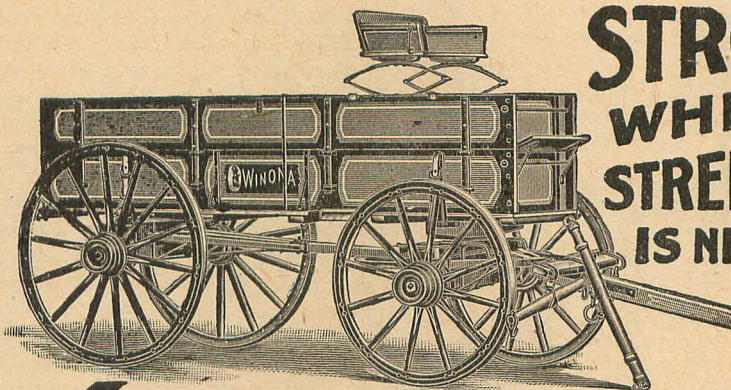
POINTS IN ROAD-MAKING

Avoid cuts and fills as far as possible. They are expensive to make, expensive to maintain and apt to be hard to keep in good condition, especially in the spring and after heavy rains. It will often be cheaper to buy the land required for a road around a hill or to angle up the hillside than to make the cut. The chances are, too, that the road so located will be much easier to maintain as well as having a smaller grade. The road around a hill is often no longer than the road over it. The bail of a pail is no longer when lying down than when standing vertical. Not long ago the writer found a place where the corner of a section reached a few rods into a valley and the slope was steep yet the road was on the section line, down the slope to the corner and up again on the other side of the section. By cutting off half an acre from the corner for the road it could have been run on level ground. This was the worst hill encountered in the day's drive.

When possible it is often better to run the road around a low wet place or slough than to make a fill thru it. The fill will as a rule never make as good a road as will the solid ground. It will be more difficult to pass on and it will be more expensive to keep in repair.

A few diagonal roads cut down distances: for instance, a farm located 5 miles south and 5 miles east of a town is 10 miles from town by the section lines and but 7 miles from town on a diagonal road. As much hauling

to and from town can be done from this farm in two days on the diagonal road as in three days on the section line road. The diagonal road also uses up less land. The right of way run on the section lines from the farm, just mentioned and to town on the section lines would contain 80 acres while the diagonal road would contain but 56 acres. The cost of maintenance is less, too, for the diagonal road as it is nearly one-third shorter than the section line road. The section lines run independent of hills,



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For what reasons a pupil may be suspended or expelled?
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How schools may be consolidated?
What recourse one has if he is not satisfied with the ratings of the examining board?
Whether free text-books may be adopted without a vote?
What to do when a pupil or parent disturbs the school?
What provision is now made for transportation of pupils?
How pupils may be compelled to attend school?
Whether children may be employed in stores and factories?
How a certificate may be revoked?
What the law is regarding drinking cups, fire escapes, hitching posts, school libraries, pension fund, accredited diplomas, etc.?

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W. G. Crocker,

Lisbon, North Dakota

valleys, and directions of travel. These, however, need to be considered in laying out roads in some sections. If they are disregarded all travel and hauling has to be done at a disadvantage.

EXPERIMENT STATION NOTES

Garden Peas

Peas have a high food value, making them one of the most valuable vegetables to raise. The spring crop is usually planted early. A fall crop can be secured by planting in the latter part of July. On heavy soils

plant 1 inch deep and on light soils 2 inches. A support for the peas is an advantage. A good way is to plant double rows 6 inches apart and stretch poultry wire between them. Brush can be used or strings stretched between stakes. It will require a pint of seed to sow 100 feet of row. There is also an edible pod pea, which is sometimes called the sugar pea.

Turn Grass Into Pork

Grass is one of the best pork producers. The growing pig should be given plenty of green food. It helps build bone and muscle—a good frame for filling out with corn. Alfalfa is the best green food, sweet clover has given good results. Brome grass is relished by pigs, winter rye is also good. When none of these are available oats, barley or rape may be sown. The pigs on pasture should be fed some grain. Two and one-half pounds daily per 100 pounds of live-weight has been found to be a good amount. The pasture will reduce the amount of grain needed from one-third to one-half. Trials at the North Dakota Experiment Station in pasturing pigs gave returns of \$10 to \$35 per acre for the pasture when pigs sold from 7 cents a pound.

An Easy Way to Get the Weeds

As soon as the corn and potatoes are planted make a little ridge over the rows with the cultivator by setting the shovels to throw in. Then harrow frequently crosswise. Everytime the harrow passes over it will stir the soil over the plants enough to kill any weeds that have started. The harrowing can be kept up till the corn and potatoes are several inches high.

Garden Beans

Dwarf wax and green pod beans are good for using green, while the navy bean is the best for use as shell beans. (The season is too short for pole and lima beans.) These do best in a loam or clay soil. Plant 1 to 2 inches deep in rows 2 to 3 feet apart and 2 to 3 inches apart in the row. May 25th is a good planting date. A later seeding can be made the middle of June.

Size to Cut Potatoes for Planting

The largest yields are as a rule secured by planting large pieces. During the years 1909, '10, '11, and '12 trials were made at the Edgeley North Dakota Sub-Station with different sized seed pieces. The average for the four years was: large potatoes, planted whole 161 bushels; cut in two, 117 bushels; cut to 2 eyes, 107 bushels; cut to 1 eye, 85 bushels, small potatoes planted whole, 109½ bushels. Trials were also made in planting peelings two eyes to each piece. These gave a yield of 74 bushels, not as big a yield as when the potato was cut to 1 eye, and the potatoes cut to 1 eye would plant twice as much as if the peelings with 2 eyes each were planted. The peelings furnish but little nourishment for the young plant. So, unless the seed bed is ideal and the moisture conditions just right the eye on the potato peeling may not start or if it does the plant is feeble so that it can not weather adverse conditions as can a vigorous plant with a food supply to fall back upon.

The Pit Silo

The pit silo has some advantages over the above ground silo as well as disadvantages. The pit silo is cheap to build. It requires less power to put silage into it than into the above ground silo. The silage keeps well in the pit silo, no air can get thru the walls nor does the silage freeze. The disadvantage of the pit silo is getting the silage out. Many have solved this in different ways using hoists to be worked by horse power or a windlass. Some of these are illustrated in a publication on the Pit Silo issued by the Agricultural Extension Department of the North Dakota Agricul-

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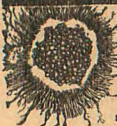
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Beets and Carrots

For early summer sow the seed as soon as the frost is out of the ground. For winter storage sow the seed during the latter part of May so that the roots will not become excessively large or woody by storing time. Small beets or carrots may be canned any time during the summer when there is a surplus. The seed is small so should be sown rather shall and at the rate of 2 ounces of beet seed to 100 feet and carrots at the rate of 1 ounce to 100 feet of row. Thin to about 3 or 4 inches apart in the row. The beet thinning may be used for greens. The rows should be about 18 inches apart for hand cultivation and 2 or 3 feet for horse cultivation.

Deep, moist but well drained soils are necessary to produce the finest roots, but less favorable soils can be greatly improved by the application of thoroly rotted manure.

For winter storage the roots will remain plump and tender if buried in moist soil or sand in a cool place.

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tural College. It also gives information as to digging and plastering.

The pit silo can only be used where the water table is lower than the bottom of the silo.

GOOD CORN GROWING

The most successful corn growers in North Dakota use well selected home grown seed corn, plant early, apply manure and keep the corn field free from weeds. This kind of corn growing also prepares the land the best for the crop that is to follow.

PREVENT ROAD DUST WITH THE ROAD DRAG

Dust in the road is largely caused by the breaking up of the ridges formed when the road bed is wet from standing water. If the road bed is kept well crowned and smooth water will run off. The surface will soften up some in case of a long rain but it will not be nearly so bad as when there are ruts which hold the water. The wheels of each passing vehicle make the rut a little deeper. The best way to keep the road bed smooth is to run over it with the road drag. This should be done soon after it rains. The soil is then soft so it can be easily scraped. Any projections will be scraped off and dropped into any depressions. The harrow also lays the soil down in layers. It sort of plasters it down, which makes a harder surface than when the soil is dumped onto the road bed. The road drag is the most effective dust preventer except oiling the roads.

POTATOES

Cut seed should be allowed to dry without the pieces touching each other.

If the potatoes are not too fully leafed, they may be thinned by pulling the surplus plants in the hill.

Common scab is favored by neutral and alkaline soils. It is therefore increased by liming the application of stable manure, and alkaline fertilizers. Acid phosphate and sulphate of ammonia tend to diminish scab.

Arsenate of lead is a good spray for potatoes. Use one pound of powder or two pounds of the wet lead arsenate in twenty gallons of water.

As soon as the potato tops die down, dig the potatoes and store them in a dark, cool, well ventilated place. Spread them as thinly as the space will allow. Watch them from day to day and remove all decayed ones. Sprinkle with air slaked lime to absorb excess moisture.

A clover, alfalfa, cow pea, or soy bean sod, plowed under in the fall will make a good potato seed bed. Make furrow at least eight inches deep.

Late potatoes planted too early are checked by the dry summer and fail to mature a full crop.

Never follow potatoes with potatoes. Rotate crops.

Sworn Statement of NORTH DAKOTA FARMER Made Under New Postal Law
Editor—W. G. Crocker, Lisbon, N. D.
Publisher—W. G. Crocker, Lisbon, N. D.
Owner—W. G. Crocker, Lisbon, N. D.
There are no bonds, mortgages or other securities outstanding against the NORTH DAKOTA FARMER.

NORTH DAKOTA FARMER,
By W. G. Crocker,
Publisher.

Sworn to and subscribed before me, this and day of April, 1917.

W. F. Grange.

(Seal)
My commission expires Nov. 11, 1917.



Canadian Farmers Profit From Wheat

The war's devastation of European crops has caused an unusual demand for grain from the American Continent. The people of the world must be fed and wheat at over \$2 per bu. offers great profits to the farmer. Canada's invitation is therefore especially attractive. She wants settlers to make money and happy, prosperous homes for themselves by helping her raise immense wheat crops.

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and other lands at remarkably low prices. During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to acre. Wonderful crops also of Oats, Barley and Flax.

Mixed Farming as profitable an industry as grain raising. The excellent grasses full of nutrition are the only food required for beef or dairy purposes. Good schools, churches, markets convenient, climate excellent.

There is now an extra demand for farm laborers to replace the many young men who have volunteered for service in war. The government is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or

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Remittance may be made by draft, check,
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Vol. 18 MAY, 1917, No. 11

Grain for food, not for liquor.

Boosting, not blackguarding, is our policy.

Have you planted a plot of navy beans?

Gambling in food stuffs should be suppressed.

Happy the farmer who does not yield to the temptation to sell his breeding stock for slaughter.

Attorney General Langer deserves the highest commendation for his heroic fight against booze and vice at Minot.

Do not overlook next year's crop. The land that cannot be put in this year should be put in good condition for the succeeding season.

The present season, tho somewhat late, is most propitious. Even the tracts of land that at one time seemed hopelessly inundated have now been seeded.

There are 2,000 farmers' mutual fire insurance companies in the United States. The average cost per \$1,000 for all farmers' mutuals in 1914 was only 26 cents. There is no reason why the farmer should pay for the hazardous risk of the city.

The tractor certainly has its advantages, since, without weariness, it can labor day and night. Every tractor in the state should be fitted with searchlights and be employed twenty-four hours. Then it should be kept at work helping the neighbors.

This year there is little fear of over-production. Were the war to cease within three months every bushel of the crop would be in demand, and not

only this crop, but the succeeding one, as the nations of Europe must be fed during the long term of reconstruction.

Altho by the time this number reaches our readers it will be a little late to sow flax for the very best crop, yet many will be induced to take the risk of an early frost, since the demands for flax are growing every day. A good price for flax is assured, whereas, the price of wheat, unless controlled by the government, is liable to be very disappointing and even disheartening.

Farmers of North Dakota are certainly doing their share toward the production of food-stuffs. It is now up to the government to provide means for obtaining help at harvest time. We can use the thousands of volunteers who have been rejected on account of some physical defect and these men can as faithfully serve their country in the harvest field as on the battle field.

A thoro investigation made by the Wisconsin Experiment Station shows that the farmers have received two-thirds of the money paid by the consumer for butter and the retailer had one-tenth. It was also disclosed that the co-operative creameries are the most successful, since they pay the farmer more for his butterfat, pay better wages to the buttermaker and obtain a higher price for the product.

The Bank of Lake Preston, South Dakota, has set a good example by advertising to loan money without interest until December 1st to all landowners who will make use of the loan in buying silos or wire fences. This certainly does not show a disposition to throttle the farmer. We earnestly plead for better co-operation between the farmer and the moneyed interests, for each is dependent upon the other.

There is no excuse for wasting meat or fat. The Department of Agriculture has computed that the waste of one ounce a day by each family in this country would amount to over three million hogs or 875,000 steers. Again, it has been found that the waste of a single slice of bread a day by each family means to the nation a loss of 365,000,000 loaves, for which it would require the yield of 470,000 acres to produce the wheat.

The farmer who has been discarding the horse may find within the next few years that a mistake has been made. The horse will be in great de-

mand during the next few years, or even months. The government at the present time has but 70,000 head of horses and mules, whereas, 350,000 must be bought within the next few months. Not only so, but the Allied Nations must be supplied. It is possible for them to manufacture guns and munitions but their resources in horses and mules are nearly exhausted and they are looking to the United States as their source of supply.

Don't let the cutworms destroy the products of your toil in the garden. They can be poisoned. Mix 25 pounds bran, 1 pound paris green and 3 finely chopped oranges and lemons. Add enough cheap molasses to make a stiff dough. Distribute this over the infested garden or field just a little near each plant. The best time to put it out is in the evening.

Make up your mind that this year at least will be an exception to the almost criminal waste in the burning of straw. There never was a more "illuminating" example of extravagance than the circle of flames that rise from the burning straw-stacks night after night during the threshing season. Make use of the straw in a ration of 10 pounds of straw, 20 pounds of silage and 1½ pounds of cottonseed meal or linseed meal; or 20 pounds of straw and 2 pounds of cottonseed cake or oil cake; or 10 pounds each of straw and shock corn and one pound of cottonseed meal.

Did you fail to take advantage of the former offer? Prices are advancing. Here's a chance on another offer.

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1. **Today's Housewife**, North Dakota Farmer, Home Life and Woman's World, \$1.10.

2. **Reliable Poultry Journal**, North Dakota Farmer, Housewife, and Woman's World, \$1.25.

3. **McCall's**, Woman's World, North Dakota Farmer and Boys' Magazine, \$1.45.

4. **Ladies' World**, Today's, North Dakota Farmer, Woman's World, \$1.50.

5. **Modern Priscilla**, North Dakota Farmer, Woman's World, Today's, \$1.65.

6. **Woman's World**, Metropolitan North Dakota Farmer, People's Home Journal, \$2.20.

A pattern with McCall's.

NORTH DAKOTA FARMER
Lisbon, - North Dakota

Livestock Department

FARM AND STOCK NOTES

N. J. Shepherd

Profit comes from making pork from young stock.

In a horse a poor appetite generally suggests some weakness.

Hogs are the only domestic animals raised for food alone.

Time, labor and investment should be considered when reckoning profits.

It is the fat beef as well as the fat milk that pays best.

The younger the animal the greater its increase in proportion to food consumed.

System is necessary in all things and in nothing more than in butter making.

A pig well started after weaning is in pretty good form for making a valuable porker.

With horses size, bone, form and constitution must always be regarded first in breeding.

A fast walk and a telling road gait are to a great extent matters of education.

Growing pigs cannot be pushed too fast provided the right kind of feed is used.

With common stock the animal possessing the largest amount of vitality will usually mark the offspring.

When shearing the sheep mark the ewes that for any reason it is considered best to dispose of later on.

The most common defects in flavor in butter comes from cream standing too long before churning.

With the farmer the richer the soil the greater his resources and the more secure his investment.

There is no work on the farm too light for the draft horse where a horse is needed at all.

The cow is a producer and the better she is fed the larger her yield of milk and butter.

In the breeding stallion see that he is a good individual first and then that he has a good pedigree.

Raise such stock as the market demands. When the purchaser seeks the producer the best prices are obtained.

Stop the churn as soon as the butter granulates if you want to wash out all of the buttermilk.

A pig that has been stunted in the early stages of its life should never have a place in the breeding herd.

Always teach a colt to lead by the

halter and foretop, to be tied up and to have its feet handled.

The only way to improve the hog on the farm at the lowest cost is by using purebred males on well selected sows.

The cheapest gains are always made on young animals. The cheapest mutation is made from grain fed to lambs after weaning.

The most important effect of the proper ripening of cream is the influence it has on the taste and odor of butter.

Horse breeding requires more capital, is more profitable if successful and involves larger losses if not than any other kind of stock breeding.

No food ever given to a hog is so well invested as is fed to a sow suckling a litter of pigs provided she is well fed.

Wool is the farm product which brings the most money in proportion to what it takes from the farm and with least labor to the producer.

For good weight of wool the sheep should have as long a fiber and as dense as possible with wool all over the body legs and face.

Milk may be poisoned thru bad air drawn into the lungs of a cow or the bad odor will affect it in the pail after being drawn from the cow.

Wool is a product from feeding just the same as fat or flesh and the flock should be fed and managed with a view to wool growth and that of fine quality.

Palatability is essential in a ration because unless the flavor and condition of the food is pleasing to the appetite of the cow she will not consume sufficient for profitable milk.

Sheep are docile, easily handled, will live on a greater diversity of food, will thrive on pastures earlier in the spring and later in the fall and require less grain than other stock.

Milk containing uniformly large fat globules the most readily parts with its cream. The largest globules always rise first, milk containing small fat globules parts with its cream very slowly and imperfectly.

The warm milk as it comes from the cow offers a splendid medium for the favorable growth of all kinds of bacteria that may gain access to it. In order to lessen this development milking should be done as carefully and quickly as possible and the milk strained and set away or separated.



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**HOLSTEIN
CATTLE**

The Virginia State College and Polytechnic Institute has developed, from its Holstein herd, seven of the highest record cows in the state, including Dione De Kol, holder of the state record for 7- and 30-days' milk and fat production. They also developed V. P. I. Viney Veeman, holder of the state record for senior two-year-olds. The leading state colleges and public institutions, by all tests, have found the Holsteins to be the best and most profitable of all dairy breeds.

Send for **FREE** Illustrated Descriptive Booklets
Holstein-Friesian Association of America
F. L. Houghton, Sec'y Box 267, Brattleboro, Vt.

ENVILLA STOCK FARM

Cogswell, N. D.

Will quote you special prices at any time on Angus Cattle, Feeding and Breeding Sheep, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat, Bird Dogs and other breeds, Angora Cats. All varieties of chickens, turkeys, geese, ducks, guineas, pheasants, rabbits, ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

Bixby's Red Polls

My herd bull, J. D. Merryweather, No. 24396, is the son of J. D. Millie, A. R. Grand Champion cow at Minnesota and Montana, in the 1915 show-ring and won the milk and butter contest with Guernseys, Jerseys and Brown Swiss competing with records of 600 pounds butterfat. J. D. Millie weighed 1280 pounds at thirty months old, and is full sister to the World's Champion two-year-old heifer. J. S. BIXBY, : : LISBON, N. DAK.

HIGH GRADE Holstein Calves

12 HEIFERS 3 BULLS
Beautifully marked, 15-16 Purebred, 4 to 6 weeks old, \$18 apiece, crated, from heavy milkers. Safe delivery and Satisfaction Guaranteed.

FERNWOOD FARM

Wauwatosa, : : : : Wisconsin

JEAN DU LUTH FARM

A. R. Guernseys and Red Polls!

Our Motto:

"Correct Type Together With High Production"

Our Herds number 270 pure breeds

Write for pedigrees of our \$200.00 bulls

Jean Du Luth Farm

Geo. P. Grout, Managing Owner
Duluth : : : : Minnesota

Holstein Calves

10 heifers, and 2 bulls, 15-16ths pure, 5 weeks old, nicely marked and from heavy milkers \$20.00 each, crated for shipment anywhere. Edgewood Farms, Whitewater, Wis.

PERCHERONS

If you want a real good young stallion or mare you should come to my barn. You can buy at a lower price at the barn than anywhere else. All home raised and used to Dakota conditions. A square deal guaranteed.

Wm. Steinbach, : : New Rockford, N. D.

Now is the TIME and this is the PLACE to buy

Shetland Ponies

FOR THE CHILDREN

Write your wants to

DR. J. A. H. WINSLOE, COOPERSTOWN, N. D

CLASSIFIED ADS.

One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

"2" Big Bargains

Bates Steel Mule Farm Tractor, 13-33; only used 3 weeks. Same as New.
12 H. P. International Portable Gas Engine. Will sell at a Bargain. Write
CALIX F. BAUER, UNDERWOOD, N. D.

Holstein Calves

WE offer for sale choice, beautifully marked, 15-16 pure-bred heifer or male calves 1 to 2 weeks old, out of heavy-milking dams, \$18 each, crated f. o. b. cars. First check takes them. Write Demerit Hoyt & Son, Wannatosa, Wis.

MISSOURI AUCTION SCHOOL

FREE CATALOG KANSAS CITY, MO.

FOR SALE: Full Blooded French Draft Stallion Register No. 23156 National French draft horse association. Name of horse, Mignon. Foaled, April 21, 1909. Color, black; weight about one ton; pretty as a picture. Very good paper, also has 1917 N. D. License. Reason for selling, can't handle horse on account of other business. E. H. Baumgart, Bergen, N. D.

Choice High Grade Holstein, Shorthorn and Guernsey calves, nicely marked ones, crated to express at little cost, \$11.50 to \$35.00. Write Ed. Howey Co., South St. Paul, Minn.

SCOTCH COLLIES.—The Companion, farm, stock and watchdog, from the most noted working strains, Highborn Collie Kennels, St. Peter, Minn.

WANTED. Live Foxes, Skunks, Mink and Badgers, any time.
Envilla Stock Farm, Cogswell, N. D.

WANTED: Man to wear fine suit, act as agent. Big pay, easy work. **Banner Tailoring Co., Dept. 501, Chicago.**

BUYERS, see these bargains before you buy. Farms, businesses, any kind, anywhere. Send for free Magazine. **Western Sales Agency Minneapolis, Minn.**

WANTED: Position on Farm by man and wife by year or proposition farming on shares. Good Stockman. Reference, if required. **Earl Hecker, Killdeer, N. D.**

WANTED to hear from owner of good farm for sale. State cash price and description. **D. F. BUSH, Minneapolis, Minn.**

Oregon & California Railroad Co. grants lands. Title to same revested in United States by Act of Congress Dated 9, 1916. Two million three hundred thousand acres to be opened for homesteads and sale. Timber and agricultural lands. Containing some of best land left in United States. Now is the opportune time. Large sectional map showing lands and description of soil. Climate, rainfall, elevations, etc., postpaid, one dollar. **Grand Lands Locating Co., Bx 610, Portland, Oregon.**

WANTED—To hear from owner of farm or unimproved land for sale. O. K. Hawley, Baldwin, Wisconsin.

FOR RENT

Stock and Grain Farm in Burleigh County, North Dakota. This includes 900 acres under cultivation besides hay and pasture lands. Also several sections adjoining that could be broken for flax. For particulars, write **W. L. Watson, McKenzie, North Dakota.**

Free For Six Months. My special offer to introduce my magazine, "Investing for Profit." It is worth \$10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how \$100 grows to \$2,200; write now and I'll send it six months free. **H. L. Barber, 588.20 West Jackson Boulevard, Chicago.**

LIPSA DECLARES DIVIDEND

New Ohio Jersey champion pays her owner \$407.06 profit above cost of feed in one year with first calf.

New champion Jerseys are today a frequent occurrence. This is bound to be the case, for Jersey breeders are not only breeding with an eye to the future, but are officially testing. With 3,540 cows on test in 449 herds scattered thruout 47 states, no record can remain long unbroken.

Ohio has a new champion Jersey, Lipsa 323967, whose record of 11,509.3 pounds milk, and 684.32 pounds butter-fat not only sets a new standard for her class, the junior two-year-old, but teaches a lesson in profitable milk-production.

Lipsa freshening with her first calf, started on test at the age of two years and five months and weighed 673 pounds. On the day she finished her record, she tipped the scales at 884 pounds, a gain of 211 pounds during her test period. This significant gain should be borne in mind when studying her feed record.

The value of an official record in so far as it concerns the cow and her progeny has never been questioned. But it has often been said that the milk and butterfat produced by a cow in a record year was made at great expense and was unprofitable. Lipsa's record refutes this absolutely.

An accurate record of her feed and its cost was kept thruout the test. This record shows that Lipsa consumed \$134.54 in feed-stuffs, which includes grain, hay, ensilage and roots. The feed record is given here in full:

Feed	Lbs.	Cost per Ton	Cost
Bran.....	779.5	\$28.20	\$10.99
Corn Meal.....	473.0	37.50	8.86
Gluten.....	1021.0	30.65	15.64
Cottonseed M.....	370.5	39.36	7.29
Ground Oats.....	859.0	35.14	15.09
Schumacher.....	111.0	27.25	1.52
Oil Meal.....	279.5	43.40	6.05
Peanut Meal.....	52.0	40.00	1.04
Hay.....	4074.0	15.00	30.56
Ensilage.....	3250.0	6.00	9.75
Beets.....	55.5bu.	.50p.b.	27.75

Total \$134.54

Lipsa's production of milk sold by her owner at ten cents per quart brought \$541.60. Deducting the \$134.54—her cost of feed—she returned \$407.06 over and above her feed-cost. Lipsa also presented her owner with a heifer calf, which is not for sale at any price, and constitutes an "extra dividend."

The Ohio State University supervised Lipsa's test, having sent its

testers to her owner's farm twenty-two times during the year. She was also tested on one occasion by the head of the Register of Merit Department of the A. J. C. C. Her record showed remarkable persistency and regularity, the best month's yield being 61.97 pounds fat and the yield of the twelfth month in lactation 58.05 pounds fat.

MILK FOR DAIRY CALVES

In feeding the dairy calf, the aim is to cut down the period of whole milk feeding. At the North Dakota Experiment Station, two lots of four calves each were fed as follows: Whole milk first three weeks both lots. From then on, lot A was fed one-half whole milk and one-half skim milk till six months old. Lot B, after three weeks old were fed skim milk with flax seed. Just enough flax was added to supply as much fat as was given the calves in lot A in their whole milk. Each calf was given two gallons of milk a day. The whole milk calves made the best gains the first three months but during the next three months the skim milk calves nearly caught up; the four lacking but fifteen pounds of weighing as much as the whole milk calves and several expert cattle men who examined the two lots pronounced the calves in lot B in as thrifty a condition as those in lot A. The saving in using skim milk and flax in place of the whole milk amounted to \$19 per calf for the 6-month period. The grain and hay cost the same for both lots.

WHY FARMERS SHOULD BREED MORE DRAFT HORSES

The danger of overproduction of horses is remote. It costs more to produce them than any other class of livestock. For that reason many farmers sit back and proclaim that it doesn't pay to raise horses; that there never was a time when the horse market was so dull as now; that the motor truck and tractor have killed the horse business and the horse is a thing of the past. Some people believe all of this, even tho the truth of the matter is the opposite. Those who have allowed such thoughts to direct their operations for the past five to ten years, will soon see the error of their ways. It takes time to make much headway in the horse business. Five years are needed to grow a horse. At best one should not expect more than two colts from three mares as an average per year. Moreover, not more than 16% of our farmers are raising colts. Not long hence

the American farmer will wake up only to learn that a great opportunity has passed. The next ten years is bound to see the greatest demand for horse-flesh the world has ever known. It can't be met on short notice. The man who is breeding every mare old enough to the best stallion available and is taking proper care of the offspring is the man who is sure to be rewarded. There are plenty of men who have bought and paid for farms within the past ten years by their pure bred draft mares.

Why is there a general tendency among farmers to buy their horses rather than to raise them? Farmers say, "I don't want to be bothered with a colt. When I get ready to plant corn or cut wheat I want horses ready to work; I don't want to have to pay \$25 for a little scrub colt and then have all the bother to raise it, besides." Men with such ideas have to buy a horse or two nearly every spring at a cost of \$150 to \$250 a head. Instead of having a horse or two to buy, better have some to sell.

premium; and even after the war is over, exports will not cease, for thousands of horses will be needed to start European agriculture anew.

It follows, as a necessary consequence, that the demand for purebred draft horses for breeding purposes will continue to be good. Importations have been, to all practical purposes, cut off. We are producing only twelve or thirteen thousand purebred draft horses eligible to registry. This means in substance, that we are producing only five or six thousand stallions fit for service per year, when we need at least seven or eight thousand. An excess of demand over supply always makes good prices, and the present is no exception.

The farmer who uses heavy draft mares does better farm work, and raises bigger crops, than he who relies on small horses or tractors. Furthermore, he has horses to sell each spring, at a profit. If you don't believe it, go ask any country banker for the name of the most successful farmers in his neighborhood. You will find them

So far the Lippincott Company have published ten of these Farm Manual Series covering the different lines of Farm and Stock Management and they make very nearly a complete library that every farmer will find it to his interest to own and study.—Adv.

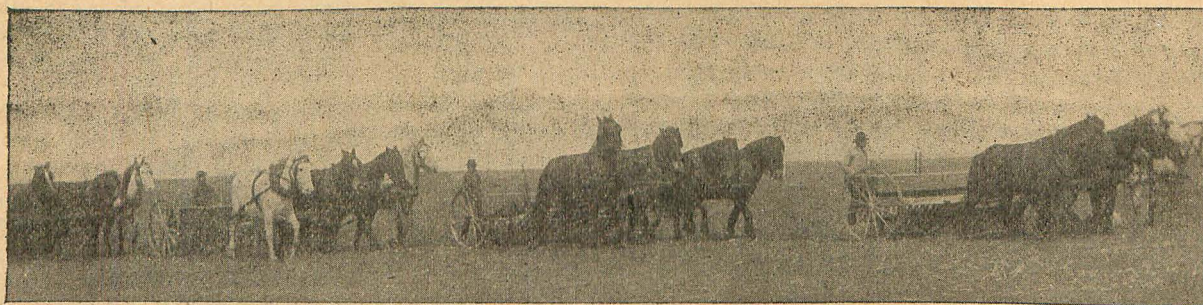
A Few Rules for Feeding

Grain Mixture

1. Feed one pound of grain mixture for each three or four pounds of milk produced daily, or—
2. Feed as many pounds of the grain mixture daily as the cow produces butterfat per week, or—
3. Feed all the grain mixture the cow will eat without gaining in weight.

Roughage

1. Feed the average cow all the hay, fodder and straw she will consume without wasting it. If corn silage or roots are available, feed from 20 to 40 pounds daily in place of some of the roughage.



"Have the Motor Truck and Tractor Killed the Horse Business and is the Horse a Thing of the Past?"

A careful consideration of the situation cannot fail to convince us that there is no danger of an over-production of heavy draft horses for our farm and city uses. Almost a million horses and mules have been exported from this country in the last 27 months for use in war. These figures show almost one horse or mule taken for every twenty-five left. As surely as this war continues another two years, good farm horses will be at a

to be livestock farmers, and men who keep and use heavy draft mares, either grade or purebred, in their farm work.

PRACTICAL DAIRYING

Productive Dairying by R. M. Washburn, Prof. of Dairy Husbandry, University of Minnesota. 131 illustrations, 432 pages. Price \$1.75. Published by J. B. Lippincott Co., Philadelphia, Pa.

This is the latest volume in Lippincott's Farm Manual Series. In this work in addition to the attention given to the qualities of the different dairy breeds there are chapters upon The Care and Management of the Dairy Cows, Winter Feeding, Clean Milk Production and Farm and Market Dairying. One thing that commends it to the farmer dairyman is that it is thoroughly practical. It gives the kind of information that the farmer dairyman most needs and in a way that he can understand.

2. Alfalfa hay has a feeding value about equal to bran oats. When it is fed, the quantity of grain mixture can be cut down.



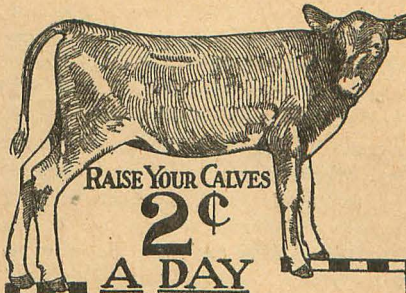
**GET RID OF
Worms and Bots**

You can remove every one of them. We guarantee to kill and bring from the body, dead, in a very short time, all pin worms and bots, with the safe and sure remedy.

NEWVERMIFUGE

Absolutely harmless. Can be given to mares in foal before the eighth month. Horse owners write us that Newvermifuge has removed from 500 to 800 bots and worms from a single horse. An animal that is wormy can't help but be ugly and thin. If your horses are troubled with worms send us your order today. Price \$2.00 for 12 Capsules. **PAILING GUN FREE** with 4 dozen \$8.00, with 2 dozen \$5.00. Postage paid.

Farmer's Horse Remedy Company,
Dept. B2, 592 7th Street. Milwaukee, Wis.



**RAISE YOUR CALVES
2¢
A DAY**

Raise strong, healthy Calves at a cost of only 2¢ per day. Don't use whole milk at a cost of 25¢ to 30¢ per day and feed at a loss. **SELL YOUR WHOLE MILK!** Cow's milk varies, too, according to the animal's health, and often causes scours, whereas Prussian Calf Meal will not vary or scour.

Prussian Calf Meal

is, also, rich in vegetable matter, protein and fat, and is a real milk substitute. Only about one-fourth as much meal is required to a feeding as most other brands. Simply mix with water or separator milk.

If your dealer can't supply you, write to us. Money cheerfully refunded if not absolutely satisfactory.

TRY A 12-LB. PAIL TO-DAY!

PRUSSIAN REMEDY CO.,
Dept. A, St. Paul, Minn.



Poultry Department



MAKING A START ON THE FARM

Michael K. Boyer

To make a proper start in poultry as a side issue the farmer should purchase a pen of purebreds of whatever breed suits his tastes and object. If a general purpose fowl is wanted, no better selection can be made than from our American breeds—the Plymouth Rocks, the Wyandottes and the Rhode Island Reds. They are good layers, and, with the proper housing and care will give good egg-production in winter. Our American class lay brown-shelled eggs, while the Leghorns, Minorcas, and other breeds of the Mediterranean class, lay eggs with white shells.

The White Leghorn is a very popular breed, due mainly to the new market fad for a white-shelled egg.

A pen of fowls can consist of fourteen females and one male. A good pen of that size, consisting of purebreds, would cost about thirty dollars and it would give an excellent start. If bought from a breeder who uses trap nests, so that each year he can increase the laying power of the stock, birds will be secured that will give a good account of themselves, and it would be possible to have another year, from the young raised, at least four pens of that size.

Starting in a small way with pure stock, the poultry section can be built upon a sure foundation, and as the plant grows in size the knowledge and experience will likewise increase.

But to make a start with common, mongrel stock, will be time and money lost. There is just as much difference between a flock of pure hens and flock of common hens as there is between a thoroughbred cow and a scrub one. Poultry can now be produced that for generations has been bred up to heavy laying. A pure hen is one that has nothing but pure blood in her veins, while a mongrel has a haphazard combination of good, bad and in-different bloods.

The next important matter is the house. It must be large enough and it must be sanitary. For a flock of fifteen the house should be about 8 by 16 feet—not any less. One section of it—say 8 by 4 feet should be partitioned off for a roosting house. The remaining part 8 by 12 feet to be the scratching room. The front of this

had best be covered with one-inch wire netting. During stormy weather in winter muslin curtains can be dropped on the inside of the wire netting to keep out the snow. The roosting part should be securely made, with double walls and heavy lining paper between, but single walls will do for the scratching shed. A door that leads from the scratching shed to the roosting pen should have a small opening at the bottom so the hens can get out into the shed the first thing in the morning.

The main point in building a poultry house is to have it so constructed that there will be a free admission of fresh air. The average poultry house on the farm is either so poorly built that there will be drafts of air constantly passing thru it, or it will be built tight like a refrigerator so that very little air can enter. Either one is a mistake and will result in sick fowls.

There must be plenty of fresh air, but the walls of the house must be securely built so there can be no draft. Fowls in a fresh-air house will suffer less from cold, and will remain in a more healthy condition than they will in any other.

In building a house an important matter is the roof. After trying almost every style imaginable, we have found that a solid board roof covered with three-ply roofing paper, will give better satisfaction, show no frost, and last longer than any other roof that can be used, especially if it be painted.

Next to housing comes the feed and care. It must not be forgotten that the hen needs a variety in her bill of fare. Corn is no egg food, and, consequently, a diet of corn will result in fat instead of eggs. For a whole grain feed it is best to have a mixture of whole corn, wheat and oats, by measurement, not weight. This grain should be scattered among leaves or straw in the scratching shed. Allow about one good handful to each fowl in the pen. This should be fed in the evening, about an hour before roosting time. We feed the grain food about 3 o'clock in the afternoon during winter and four o'clock in summer.

In the morning give a mash made of two parts bran, and one part each of cornmeal, middlings, ground oats and meat scrap, with five pounds of linseed meal added to every 100

pounds of the above mixture. Let the different parts be measured by weight. If this mash is mixed up with milk it will be the better. Use enough milk or water to make the mash crumbly. During winter heat the milk or water; in summer either can be used. Feed about one iron-spoonful (equivalent to one handful) to every ten fowls in the pen. Or, if preferred, the mixture can be fed in a dry state, of course, in which case, no milk can be used, but milk can be given as a drink. Always feed the mash in troughs or hoppers.

During the summer feed all the grass, clover, and alfalfa, the fowls will eat. They also relish vegetable tops or any kind of greens. In winter, cabbage or beets or turnips cut in half or clover or alfalfa, cut in half lengths, and scalded and mixed with the mash, will give excellent results.

Charcoal, cracked oyster shell, and grit should be kept in small boxes, (cigar boxes are good for this purpose) constantly within reach.

Once a week (oftener would be better) the hen manure should be cleaned up. By having a platform under the roosts, and this coated with ashes or dirt, the manure can be easily scraped off. We have our roosts two feet from the ground, on a level, and the platform about six inches below that.

Keep the premises clean, whitewash the inside once or twice a year (spring and fall) pour coal oil on the roosts, every week or two, and use tobacco stems in the nest, and there will be very little trouble with lice, and the fowls will enjoy good comfort, and a good egg yield will be the result.

OVER FORTY YEARS AGO

It is interesting to look back forty years and note the changes made in poultry culture in America. Twenty-eight years ago there appeared in the Poultry World (now defunct) talks of poultry of thirty years prior to that date, as "the royal Black Spanish with his white face as a badge of his pure Castilian descent; the Hamburg, (the everlasting layer of the Dutch); the beautiful crested Polish; the plainer, but more practical in fleshy respects, Dorking; and the beautiful Game. These five breeds are about all that survive that length of time, and even these have undergone no small transformation.

"The Dorking has increased somewhat in size, but is probably the least changed of the five; the white face of the Black Spanish has lost somewhat of its blushing tendency, is whiter and the white covers an increased extent;

and the crest and beards of the Polish have been developed wonderfully, while greater distinctness has been given to the markings, new varieties have been produced, and the fowl, without losing any of its practical qualities, has become more beautiful; the same may be said of the beautiful and useful Hamburgs and Games.

"In those days the Shanghai and Chittagong were prime favorites, but the march of improvement has swallowed them up; altho Phoenix like, from their ashes, they have arisen as our lordly Brahmas and noble Cochins. Besides transforming the varieties of that day to such an extent as almost to make them new breeds, we have added the Leghorns, noted for beauty and utility; the Langshans, a worthy rival of the Brahmas; the Javas, excellent fowls, and the ever popular Plymouth Rocks, and Wyandottes.

BIG MISSOURI ROSE COMB RHODE ISLAND REDS. Three choice pens. Five eggs from each pen for \$1.50. Blue Ribbon Strain, heavy winter layers. **J. C. Guyer, Mandan, North Dakota.**

PURE BRED S. C. Buff Orpington Eggs for hatching thru May and June, \$1.25 per 15. **Mrs. Lydia Skeels, Westby, Mont., Box 72.**

FOR SALE: Cockerels and Eggs. Eggs from thoroughbreds. Turkeys, Geese, 7 kinds of Ducks, Pearl and White Guineas, Bantams, Leghorns, Houdans, Hamburgs, Games, Minorcas, Cochins, Buff and White Orpingtons, Silver Laced and White Wyandottes, Barred, White and Buff Rocks, Light Brahmas, Langshans, Rhode Island Reds, Hares, Rabbits, Fancy Pigeons, Guinea Pigs, Dogs. Write wants. **D. L. Bruen, Platte Center, Nebraska.**

EGGS for Hatching from our prize winning Rose Comb Brown Leghorns, Rose Comb Rhode Island Reds and Single Comb Black Minorcas. \$2.00 per 15. **Peter H. Levey, Fountain, Minn.**

EGGS. PURE BRED S. C. W. Leghorn. Golden, White, Partridge, and Silver-laced Wyandottes. Rose Comb Island Red. Guineas. Runners and Pekin Ducks. Setting \$1.25; 100, \$6.00. B. Turkey, nine \$2.50. All eggs prepaid.

JOSIE ZENG
Walnut Grove, : : : : Minn.

White and Columbia Wyandottes, Light Brahmas, and S. C. White Leghorns Over 30 years a breeder. Stock and eggs for sale. **MICHAEL K. BOYER, Box 27, Hammononton, New Jersey.**

FOR SALE. Purebred Barred Rock Hatching Eggs, \$1.50 and \$2.50 per 15; \$7.00 and \$11.00 per 100. No cockerels left. **Laurel Hill Farm, Westby, Mont.**

Hatching Eggs from a good strain of Pure Bred S. C. Rhode Island Reds, 15 for \$1.50; also a few Cock Birds and Cockerels for sale. **E. N. Hedahl, Mercer, N. D.**

FOR SALE. Well Bred Up R. C. Reds. First prize winners; cockerels, \$1.25. **Mrs. John Henderson, Bx 228, Beulah, N. D.**

PUREBRED BARRED PLYMOUTH ROCK EGGS. One setting of 13, \$7.50 100 eggs, \$4.50 prepaid. **Otto L. Albertson, Nunda, S. D.**

White Langshan eggs, \$3.50 setting, F. Runner Ducks \$1.50 setting. **Selma Shanander Dayton, Iowa.**

FOR SALE. Silver-Laced Wyandottes. Eggs and baby chicks **Mrs. Thos. Brady, Lansford, N. D.**

Quality White Rocks

Hatching Eggs and Stock in season. We have the Best. **O. A. Barton, Valley City, N. D.**

What would our poultry yards be without these additions?"

At that date we did not have the poultry press, and poultry "artists" were freaks. Their crude work looks ridiculous, compared with present day conditions. And then the appliances, from the poultry house down, including feeding and drinking utensils, rings for distinguishing fowls, bits to prevent feather plucking, punches for marketing, instruments for caponizing, all useful and helpful, rendering the business of poultry breeding not only more certain but greatly more pleasurable, are of modern origin.

A work published in 1853, has this to say about artificial methods: "No artificial heat succeeds so well as that which is natural; it fails in some particulars. For instance, among the numerous birds born by artificial hatching, many die from debility. * And tho we will not go to length of asserting that monsters are more frequently born—creatures, for example, with two heads or three legs—by artificial hatching, and that the instinct of incubation is not transmitted to birds so hatched—we believe, that if the bills of mortality of young birds sent off from the trays of patent incubators were duly recorded and published, they would show many cases of imperfections, and a considerable number of premature deaths."

POULTRY RAISING FOR BOYS

Never before was there a better time for the North Dakota boys in the country, city and village to earn some extra money and at the same time help the food shortage which the people of the United States are using every measure to solve.

Boys, get busy and buy a few settings of eggs for hatching or buy baby chicks. Some may think it is rather late to buy eggs for hatching. The beginner will be more successful hatching in April and May as better hatches are obtained in the natural breeding season, the days of sunshine and green grass. It's far better to buy a setting or two of eggs in June when breeders generally make a reduction in price of hatching eggs than go without and lose a whole year's work. In May or June weather conditions are at their best for the little chicks and it is not more than half the work to raise them as in the colder months.

A very enthusiastic executive meeting of the Ransom County Poultry Association was held at the court house in Lisbon May 5th. Many matters of importance were taken up

and disposed of, among which was the decision of the local association to apply for membership in The American Poultry Association. Plans were also formulated for the issuing of the annual Bulletin and Premium list, and the indications are that the Annual Show next fall will be far ahead of anything of its kind ever held in this county.

To do the work in a satisfactory manner, a man should not have more than 500 hens in his charge. It is not only the feeding and watering to be done, but an endless amount of details to look after. It is possible for a man to manage 1000 hens, but for best results half that number would be best.

Meat in some form should be fed the hens in winter and when confined, to take the place of grasshoppers, worms and bugs obtained in summer. Beef scraps offer a convenient form of animal food. Fresh ground bones make one of the best.

DAIRY HINTS

The fast milker stimulates the udder more than the slow milker, and thus gets more milk.

Wash your hands and put on clean clothes before milking. Do not milk with moist hands.

As a rule a heifer cannot be milked as rapidly as an older cow, but she should be milked just as thoroly.

In the management of the dairy cows it is very important that the milking be done at regular periods. That is at the same hour night and morning as nearly as possible. The more equally the twenty-four hours are divided in which the milking is done twice, the more uniform will be the quantity and the quality of the milk produced.

Sometimes a cow is difficult to milk because the opening in the teat seems too small. Get a milk tube, sterilize it and press into the opening so as to draw off the milk and stretch the orifice until it is large enough for a full flow. Sometimes a cow has a hard lump in the udder. Rub it every third day with a mixture of two drams of iodine in two ounces of lard until the lump disappears. Often when a cow is hard to milk or holds it up she will come all right from feeding a little bran or grain, as this diverts her attention from the nervous action which is the source of the trouble. When the calf comes, care in milking will prevent the milk fever. In case of attack pump air into the udder with a bicycle pump.

School and Home



Miss Ura Leader,
Ruraldale, N. D.
Dear Miss Leader:

By this time your school work has drawn nearly to a close, and I suppose you are glad. When the warm days of spring come it is rather difficult

to confine one's attention to books. One's eyes constantly turn toward the outdoors. A little work in agriculture will therefore be a pleasure. It is not necessary to confine your studies to the class room.

Cultivation, the subject which you are to discuss this month, is very important. Keep in mind that cultivation is performed for but one purpose, and that is to modify the soil condition. Incidentally weeds are killed, insects and diseases are destroyed, and the soil is aerated. But plowing, discing and harrowing is for the purpose of putting the soil in a certain desired condition.

On some nice day, take your pupils out into the fields and let them observe the condition of different soils. They can tell which farmer has obtained the right condition of the soil. There will be plenty of contrast, for much of the land will be in poor condition. Some will be lumpy, some will be dry and dusty, some will be wet and sticky, but now and then a field in good condition will be found.

Study the different kinds of plows which are used. Note the effect of the different shapes of mold-boards. Which plow has the lightest draft? Which pulverizes the soil most? Observe which type of plow is used in plowing sod. What work does the plow perform that cannot be done by some lighter implement. Plowing is slow, hard work. Why do farmers always plow their land as the first preparation for the seed bed?

There are several different implements which are used in preparing the soil. What work does each do? Why is it necessary to have several different machines? Why not seed on fresh plowing? What the physical changes made by the different implements?

It will be well to study carefully the nature of the soil. Observe how differently sandy soil behaves from heavy clay soil. See how differently

the farmers prepare these different soils. Why not treat all soils alike?

There is only one place for you to study cultivation and that is in the field. It will do the youngsters good to get out into the field. The class room and the text-book are not suitable for the study of agriculture.

And now you have some work to do with the young ladies. You are to study the Conveniences for the Farm Home. Perhaps you do not appreciate the significance of this subject. It may be that you think this means to lighten the household burdens.

It means having the garden close to the house so that the lady can work there at odd moments. It means having the wood pile close to the back door so that the lady may have the opportunity to split wood in what might otherwise be waste time. There is no logical reason for having to go a long distance to work, it should be handy.

Maybe, Miss Leader, this makes you resolve to remain single, but I trust not. Perhaps we may make a better analysis. Things commonly spoken of as conveniences for the home are usually necessities. Be sure you have a clear distinction between a convenience and a necessity.

There are two kinds of necessary conveniences for the farm home. One is labor saving the other is health saving. I should also add that a handy strap will sometimes improve the morals of the younger members of the family.

In taking up this subject I think you will do well to consider the following points: lights, water, heat, ventilation, kitchen arrangements power machinery, proper implements for household work.

The work in the farm home is just as important as that in the field. Good health and good food are essential. Both are found in the home—sometimes.

Study the sources of drinking water, and its effect on health. Many families use impure and contaminated water. Are the lights suitable, or are the eyes soon ruined if one reads or studies by artificial light. Do you find handy devices in the homes.

Is all the work in the home performed by manual labor and all the work around the barn by engine power. Is the well handy to the house.

If power is used on the farm why not have running water in the house.

Look well into these things. And have the boys as well as the girls note some of these things. A family life ought to some extent be cooperative. Refuse any bachelor friend until he promises to do all he can for the home.

Sincerely yours,

O. O. CHURCHILL.

WHO INVENTED ICE CREAM?

Many persons think that Dolly Madison invented ice cream, but Thyra Samter Winslow, writing in the Illustrated World, declares that Dolly Madison was merely the first person to serve it in America. This was at a White House reception during the administration of President Madison. The guests liked ice cream so well that they asked how it was made, and from this small beginning the ice cream business has grown until, according to a creamery expert who has followed the development of the business in America, the American people last year consumed 250,000,000 gallons, which, figured at 80 cents a gallon, means a business of \$200,000,000. The first ice cream was made by a London confectioner named Gunton, and from him others learned to make it, and it was introduced to America by Dolly Madison. But his methods of freezing were crude and uncertain. It remained for Nancy Johnson, the wife of an American naval officer, to invent the ice cream freezer. Today the ice cream business has outgrown the small freezer. Vast quantities are frozen by special machinery. The industry has become so great that fortunes have been made out of it. And every year it increases. During the last ten years the consumption of ice cream in the United States doubled. In the northeastern states there has been a steady growth for many years. The southern and western states like ice cream, especially in the summer, but in the northeastern states it has become a winter as well as a summer dish, altho, of course, much more is consumed in the summer. When ice cream became the national dish the manufacturers demanded better dairy products, and they have done much in the campaign for clean milk. The rise of the industry also created a large demand for flavorings, soda fountain equipment, etc., and it introduced a new and profitable feature into the drug business. It is estimated that the average consumption in the United States is 60 dishes a year for each person.—Philadelphia Ledger.

CULTIVATION OF THE HOME GARDEN

The importance of thoro and continuous cultivation in the home vegetable garden is pointed out in a new Farmers' Bulletin of the U. S. Department of Agriculture, No. 818, "The Small Vegetable Garden." After the seeds have sprouted or after the plants have been set in their permanent location, continued cultivation becomes necessary.

The gardener should never permit the surface of the soil to become baked or even to form an appreciable crust. Constant stirring with hand tools or a wheel cultivator should be practiced between the rows and about the plants. Such a stirring permits the air to penetrate the soil, where it facilitates chemical action and bacterial activity, destroys weeds which otherwise would utilize large amounts of plant food, and, finally, conserves the moisture supply. The rake is perhaps the gardener's most valuable tool in cultivating. This can be passed backward and forward over the ground until it is in an open, mellow condition. Where vegetables grow closely in the rows it often will be necessary to supplement the cultivation by hand weeding. Small implements are made for this purpose, and may be purchased cheaply. It is well also in some cases to pull up weeds by hand, especially where they grow closely about the stalks of the garden plants.

Stirring the Soil After Rains

Just as the gardener should be careful in early spring not to dig the ground when the soil is too moist, so he should be careful later in the season not to cultivate too soon after rains. The stirring of very muddy soil "puddles" it into a compact, cement-like mass in which the plant food is securely locked. The garden will require attention, however, as soon as the excess moisture from a rain has soaked in or partially evaporated. Unless the ground is stirred at this time a crust will form almost inevitably. Such a crust, besides restricting the plants, prevents the access of air, and also facilitates the loss of moisture thru evaporation.

Irrigation

When, during prolonged dry spells, the plants give evidence of suffering because of the lack of moisture, water must, if possible, be supplied artificially. Where a supply of piped water is at hand, perhaps the most usual method of irrigation is by sprinkling with a hose. If sprinkling is practiced it should be done late in the afternoon. It is not sufficient merely to dampen the surface; a thoro wetting should be given. A more

satisfactory and more economical method of irrigation, however, is to open small furrows between the rows of growing plants and to supply

water in these ditches from a hose or pipe. Several hours after the water has soaked in, the dry earth should be drawn back into place.

Some of the Simplest Principles in Agriculture

By Chore Boy

Cultivation

Cultivation as commonly used refers to keeping the soil in the best conditions for such crops as corn, potatoes, beets and garden plants to make the best growth. The most important thing done by cultivation, is to get rid of the weeds as they rob the plant of plant food and soil moisture, of which there is usually not any too much in the soil for the plant alone. The weeds often crowd the plants above ground. It has been found by practice and by experimentation that certain plants need a certain amount of space in order to make their best growth. If weeds are allowed to grow this means that the plants are not given the space that they should have. It means that there will be weed roots occupying the soil along with the plant roots and both trying to get the same thing. The best time to get the weeds is when they are small and they are then easy to kill and they have not had a chance to do much harm. In corn and potatoes weed killing can be made much easier if as soon as the corn and potatoes are planted they are gone over with a cultivator, straddling the row and with the shovel set to throw in. This will make a ridge over the row—then harrow crosswise. Every time the harrow goes over it will be sure to stir the soil in the little ridge over the plants. This stirring of the soil will result in the little weeds being killed. The harrowing can be kept up at frequent intervals until the corn and potatoes are several inches high.

Another point in cultivation is that it should be shallow. It is the top soil that warms up first and the plant roots will naturally seek this warm soil, which means that they will be near the surface. The surface soils also contain the most readily available plant food, which is another reason why the roots prefer it to the soil deeper down.

There is one good way to find out how near the surface the plant roots come, that is to dig up a few plants and see where they really have their roots.

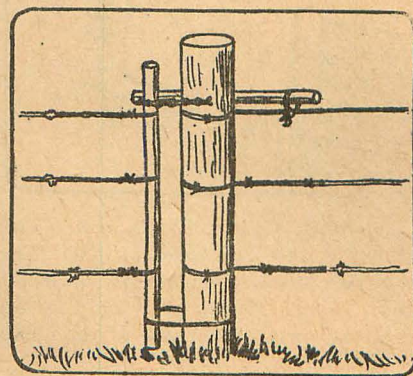
This would make a good exercise for a class in school. When one has

once seen how near the surface the roots go they would certainly never set a cultivator deep enough to hurt them. When the roots are cut the plant gets a set-back which oftentimes stunts it and it will also cause the plant to mature later and corn is certainly wanted to mature early in North Dakota, which makes it the more important that the cultivator be shallow here than where the season is longer. There is a close relation between good cultivation and a good crop.

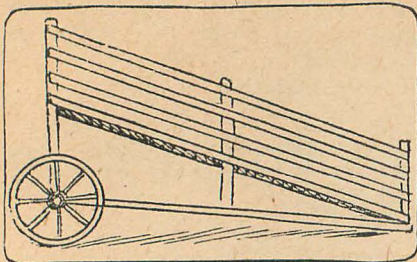
Conveniences on the Farm

There is no place where ingenuity can be used to better advantage than on the farm. The kinds of work to be done are so many and handy devices can be used to advantage so many times. Below a few such devices are illustrated. These were worked out by farmers. Some of these were first given in the Nebraska Farm Journal, American Agriculturist Farmers Mail and Breeze and Iowa Homestead.

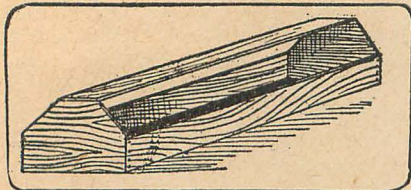
A handy device will often save considerable labor and often times they accomplish little things that it is annoying to have to do. It is a good plan to stop and try to figure out what one can do in the way of devising conveniences.



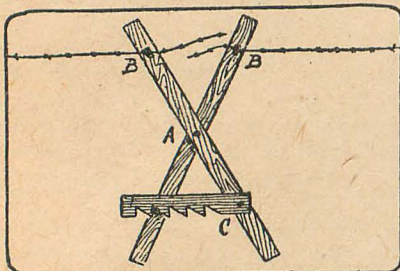
An Easy Fastener. Take a piece of chain a foot long, staple one end to post; fasten the other end to a stick. Slip the stick around end post in wire gate and bring it back to the wire and slip a loose wire ring over the end to hold it as shown in cut.



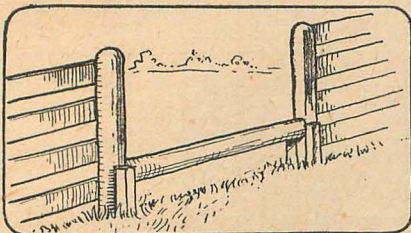
Hog Chute on Wheels. This is very handy in loading and unloading hogs.



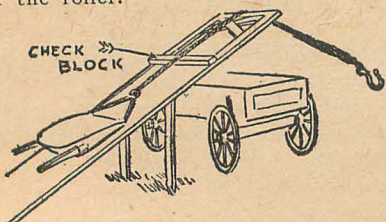
Handy for Feeding Chickens. It is 7 inches wide, the slot is 3 inches wide and is 3 inches higher than the edge of the trough.



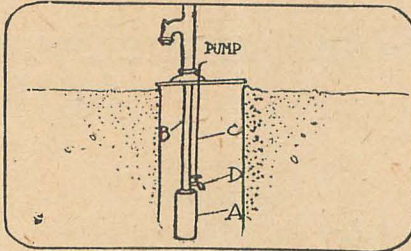
For Repairing Wire Fence. This contrivance is made of two pieces of hardwood 4 feet long bolted together at A. At BB there are clamps to hold the wire. When the ends of the broken wire have been fastened in the clamps bring the ends together and the ratchet at C will hold them in place.



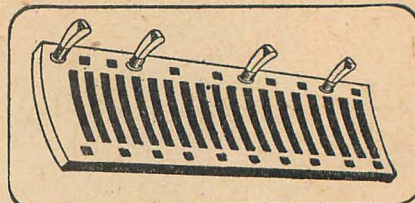
A Hog Gate. Cattle can pass thru this gate but hogs can not. The bar should be 6 inches in diameter and round. Fasten by driving an iron bolt into the center of each end of the roller.



Loading Soil. A platform for loading a wagon with a scraper can often be made to save some hard work.



To Keep Pump from Freezing. A is the cylinder of the pump; B is the pipe from cylinder to pump above. D is a faucet set into the pipe B and C is a rod that shuts off or turns on the faucet D and extends above the pump platform. Turn the rod on cold nights to drain the pipe B.

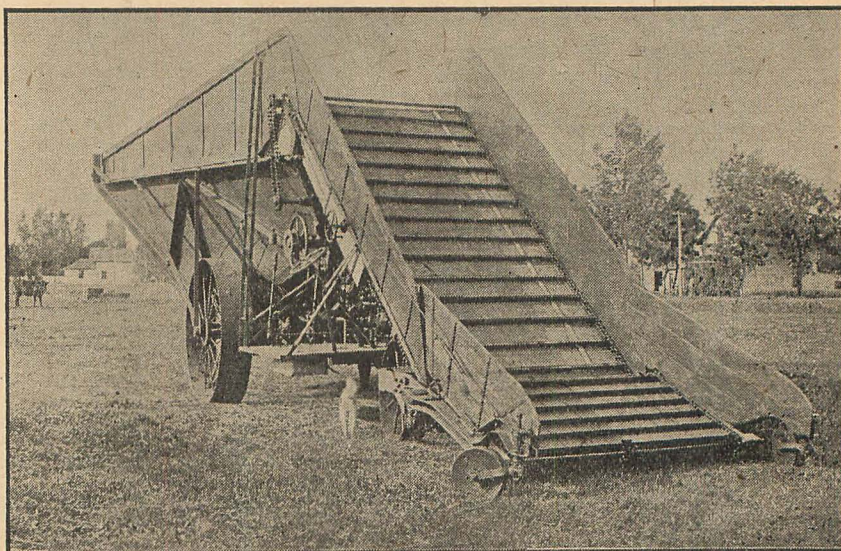


The four teeth will be enough to hold the straw back so all the peas will be threshed out. Run the machine a little slower than for grain.

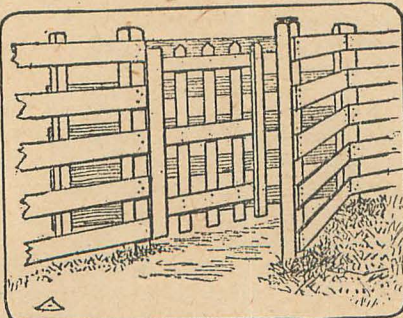
THE DAY OF SEPARATE WAISTS AND SKIRTS

The New Coat Blouse One of the Smart Novelties Fashions in Furs and Footwear

Separate waists and skirts are going to be very prominent this season. We



Shock Loader and Carrier, Patented by B. H. Nelson, St. Thomas, N.D. It does the work of 9 teams and 14 men and saves all the grain. One man runs the 15 H. P. 4-cycle engine. Moves from 3 to 5½ miles per hour. Handles hay from the windrow.

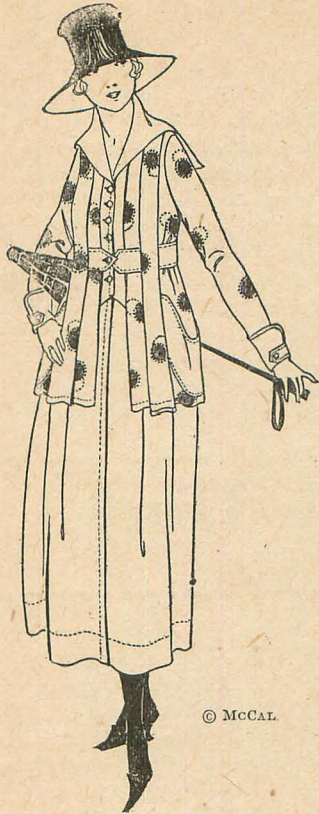


For People Only. A gate that stock can not get thru but persons can. The small gate is on hinges. It is always open to people and always shut to stock.

Threshing Peas. As shown in the cut leave but four teeth in the concave and use only one with teeth.

have it on very good authority—no less than from Paris. There are all sorts of blouses and all sorts of skirts, to suit women of every build and every taste. The woman who adores those charming "little" blouses of chiffon and Georgette will find myriads of them to her taste. Some are finely pleated or tucked, and those that require additional trimming take unto themselves bead trimming or filet lace, both of which forms of adornment are extremely popular. In the bead work, wooden beads are now being used together with the glass beads. This is the latest invention on the part of designers of fancy effects.

Some of the new blouses are made to give the effect of coats, especially those of hip or finger-tip length which are meant to be worn over the skirt.



A Costume With the New Coat Blouse

One of these new blouses is illustrated in the accompanying sketch. It even has a vest in the front to accentuate the coat-like appearance. It is fashioned of dotted sports silk with plain silk trimmings in the vest, collar, belt, pockets and cuffs.

Skirts feature both the straight, simple lines which continue to satisfy most women, and the draped effects with diminishing width at the hem of the skirt. The barrel effect in these skirts may be anywhere between the hips and the knees.

White skirts of serge, flannel, gabardine and wool jersey are worn with coats of velvet in both dark and light colors. Besides the skirts of one color, stripes, checks and plaids with various colors are very frequently seen.

The Embroidered Frock

Afternoon frocks lavishly trimmed with embroidery are as highly favored as ever. Many a frock is made in jumper effect; not the old kind of jumper, but an entirely new sleeveless affair extending below the waistline at the front and back. This smart type of jumper is shown in the sketch. The costume is one of those featuring the oval silhouette, the skirt being softly pleated at the top to produce the slightly distended effect at the hips. Oyster-white pongee, which is one of the favored dress fabrics, develops this costume, and the embroidery on the jumper is done in the simple running-stitch in Chinese blue. The girdle

Beautify The Home

Let us Co-operate with You



By far the most magnificent collection ever offered. Providing a veritable sea of ever-changing, fragrant bloom from the earliest spring, through the summer, fall, and to the very edge of winter. With ordinary care, they will bloom the same year planted.

2 Golden Bell — Forsythia

These splendid old shrubs, growing 8 to 10 feet tall, light up the garden with glinting masses of yellow, very early in the Spring before the leaves appear. Their bright golden flowers, often appearing before the snow has gone, vie with the Crocus as harbingers of Spring.

2 Thunberg's Barberry

Inimitable neat, dense and very graceful. Spherical in shape. Its brilliant yellow flowers, which appear early in the spring, are followed by vivid scarlet berries which remain throughout the winter. Its deep green foliage changes in the fall to scarlet and gold. Grows 3 to 4 feet high.

2 Deutzias One Pride of Rochester One Crenata

These valuable shrubs come from Japan. Very hardy, with luxuriant foliage, and a profusion of massive white flowers 4-6 inches long. The Crenata is double white, tinged with rose. The Pride of Rochester grows 6 to 8 feet high, and blooms in May, before all the others.

2 Sweet Shrub — Calycanthus

A very beautiful shrub of quick growth. The wood is fragrant, the foliage rich, and the flowers, deep chocolate red, have a peculiar spicy fragrance. Grows 4 to 5 feet high. Blooms in June, and at intervals until frost.

2 Snowball Hydrangeas

A grand addition to the summer flowering shrubs; dwarfing the show of other sorts in July and August by the magnitude and profusion of its flower heads. The "snowballs" are conspicuously white and imposing. Grows about 6 feet high. Very hardy.

2 Rose of Sharon

Blooms from late August until winter with a profusion of large, brightly colored flowers. Makes the most gorgeous show of color to be found among the deciduous shrubs, at a time when few flowers are in bloom. Attains a height of 10 to 12 feet.

These twelve shrubs, full one-year size, will be sent to you at once, with full instructions for storing until planting time, and for planting. If you prefer, we will instruct the nursery to store the shrubs, and send them to you at the right time to plant. All charges are prepaid. They are delivered FREE to your mail box.

Send only 75 cents in money order, check or stamps to the North Dakota Farmer, Lisbon, N. Dak., and you will receive this collection, post paid and the North Dakota Farmer, one year. Address, NORTH DAKOTA FARMER, - - LISBON, N. D. (Last Chance of this Season)

winds itself twice around the figure as most of the girdles of this type do in these days.

Summer Furs

Furs are not to be discarded when the warm days come. They will be worn all thru the spring and summer just as they were last year. Those who gasped at the thought of wearing furs in summer last year did so because they did not realize that the furs the fashionable women wore were not the wintry kind, but specially light, summer furs. Altho the fashion

and more as we hear of the soaring prices of leather. Plain low pumps to be worn with spats are going to be worn very much now as this will be one of the means of solving the problem of the high cost of shoes. Black patent leather pumps with white or sand-colored spats is the fashionable combination. In both pumps and high shoes, gray and the light tan shades, which are so very popular in dress materials, are also found in shoes. Kid and suede are equally smart for all occasions. In high shoes the upper part is usually of a light shade, either white, gray or light tan,

and the lower part of a darker leather.

SPECIAL. North Dakota Farmer, McCall's and Pattern,—all for 75 cents. Address: North Dakota Farmer, Lisbon, N. D.

The manufacturers are now making shoes of cloth in gray, tan and white to take the place of leather shoes. They are mostly of a fine grade of canvas made on the same lasts as the expensive kid shoes and are much less expensive. A few years ago, shoes of velvet and satin were the rage, and now that the price of leather is exorbitant, will women take kindly to these more practical cloth shoes?



Jumper Styles Are Still Popular

started as a fad, it has been proved that a light fur wrap for the shoulders is really acceptable in certain parts of the country, especially in the evenings. And, of course, every woman realizes how wonderfully becoming they are. Fur appears as a trimming on several of the new satin wraps and coats. Satin is considered especially smart for wraps as well as dresses, and is therefore very prominent.

Among the new coats there are some cape effects seen which promise to be well received by the women of fashion. These have been launched by the Paris designers and they seem already to be meeting with success.

The High Cost of Shoes

The interest in footwear grows more

Household Hints

By Aunt Maggie

HOUSEKEEPING EXCHANGE

Prevents Puckering

To prevent gathering or puckering when sewing soft silk, or silk tissues, on the machine, place a piece of newspaper under goods and stitch all together. The paper will tear off, leaving your stitching smooth and straight.

Keeping Rugs Flat

To keep rugs from rolling up at corners sew flat iron ring at each corner on the under side.

To Remove Shine from Cloth

Use very little turpentine and rub cloth very hard, going over and finishing a small portion at a time. The smell is disagreeable while it lasts, but will soon evaporate on exposure to the air.

A Way of Making Starch

We have learned from the Japanese and other Oriental nations that rice should be washed in many waters to remove the starch before it is the perfect food which these nations find it. But it remained for an American woman to discover that the first two waters in which it is washed, if boiled down, makes a superior starch for embroidered and lace handkerchiefs and the pretty wash neck wear which requires a suggestion of starch rather than any real stiffening.

SUGGESTIONS FOR COOKING VEGETABLES

All green vegetables, roots, and tubers should be crisp and firm and thoroly clean when put on to cook.

Soak wilted vegetables in cold water to freshen them.

Put salt in cooking vegetables when half done.

A dash of soda helps green vegetables to keep their color.

Peas and spinach are much better color if cooked uncovered.

Cook delicately flavored vegetables in a small amount of water.

Cook vegetables which have a strong odor or taste in a large amount of water.

Cook young carrots and beets whole, then skin and slice.

Clean vegetables with a brush.

Salt tends to darken cabbage, cauliflower, or brussels sprouts.

Tie cauliflower and cabbage in a piece of cheesecloth. It is easy to handle and keeps its shape.

Slice egg plant with a silver knife.

Always wash a dozen pea pods to cook with the peas. This gives them a better flavor.

Peas are delicious when cooked in the pod. The pods burst open and rise to the top, the peas settle to the bottom.

Vegetables thoroly ventilated while cooking are thought to be more wholesome and of better flavor.

Vegetables should not be cooked in an iron kettle.

Careful trimming and thoro washing are essential.

Cook vegetables as soon after gathering as possible.

After taking out machine needle and shuttle wash every joint and bearing with gasoline. Use plenty of gasoline, but be sure that there is no lighted lamp or flame in the room. Turn the wheels for a few minutes so the gasoline will reach every part and wash out the dirt and old oil. After that wipe it all carefully with a soft cloth. Then when you are sure that all the dirt is wiped off, oil the machine with sewing machine oil, run the machine a few minutes and finally wipe off every bit of superfluous oil with a piece of flannel or chamois.

Seasonable Receipts

Mrs. Sadie Baird, Editor

USES OF STALE BREAD

There is nothing new in the idea of using bread crumbs in cookery and most housekeepers are in the habit of having some on hand for use in scalloped dishes, stuffing for meat, puddings, etc. Few realize, however, how much more generally they might be utilized. Many commercial bakers use bread crumbs to some extent as a substitute for the flour in many sorts of cakes, cookies, puddings, etc. Crumbs may also be used instead of flour and starch for thickening soups and sauces.

Any bits of bread which can not be eaten on the table should be saved and crumbed for use in cooking. Some housekeepers keep two kinds on hand; one, stale crumbs made chiefly from the inside of the loaf and suitable for use in the place of flour, and dried crumbs made from any part of the bread browned a little in a very slow oven and crushed fine to be used in scalloped dishes, for the coating of croquettes or other fried foods, or wherever a crusty, fine crumb is needed. To prevent their growing musty, crumbs should be kept in dry, airtight, containers. Fruit jars are often convenient for the purpose.

Toast

Toast is another form in which partly stale bread can be made attractive. In many families it is served only for breakfast, luncheon, or supper, but the custom which many high grade restaurants have adopted of serving thin, crisp, hot toast with the more substantial meals, might well be followed at home. Such dishes as chopped meat with gravy, creamed chicken or fish, poached eggs, melted cheese, cooked asparagus, Swiss chard, baked tomatoes, etc., are served very commonly on toast. Cream or milk toast (that is, toast with a cream sauce or milk gravy, perhaps flavored with a very little chipped beef, salt fish, or other savory) may be used as the main dish at breakfast, luncheon, or supper.

Pancakes

One cup crumbs, two and one-fourth cups skim milk, one-half cup flour, four teaspoons baking powder, one teaspoon salt, one teaspoon sugar, one teaspoon melted fat, one egg.

Soak crumbs in milk for three fourths of an hour. Then add other ingredients and cook on a hot griddle like ordinary pancakes. If sour milk

is used, substitute one-half teaspoon baking soda for the four teaspoons baking powder.

As a Breakfast Food

Another good way of using stale bread or of treating bread so that it shall not become stale, is to put the pieces in the warming oven or on the back of the stove and leave them until they are crisp and a delicate brown thruout. Crush with a rolling pin and use with cream as a cereal.

Gingerbread

One cup molasses, one-half cup boiling water, one and one-third cup fine bread crumbs, one-third cup flour, one teaspoon baking soda, one and one-half teaspoons ginger, one-half teaspoon salt, four teaspoons melted lard, or other fat.

Add water to molasses and combine with the dry ingredients mixed together, then add fat, and beat. Bake for about 25 minutes in a hot oven.

Indian Pudding Made with Crumbs

One cup fine crumbs, one quart skim milk, one-third cup sugar, two tablespoons melted butter, or other fat, one-fourth cup molasses, one-fourth teaspoon ginger, one-fourth teaspoon cloves, one-fourth teaspoon cinnamon.

Scald the crumbs in milk; add the other ingredients; and bake one and one-half hour in a slow oven. This pudding may be made with any kind of bread crumbs, but it furnishes an especially good means of using up stale corn bread.

Egg Toast

Six slices bread, one egg, one cup skim milk, or water, one-fourth teaspoon salt.

Beat the egg, and add the liquid and salt. Let the bread soak in the mixture until slightly soft. Then fry to a light brown on a hot, well-greased pan or griddle. More eggs may be used if available.

Pie Plant

Pie plant or rhubarb is one of the most easily raised plants that produces material for pies and sauce. It is also ready to be used as soon as growth starts in the spring, long before any fruits are ready.

The best way to make a start with rhubarb is to divide an old root into several pieces. Plant these three feet apart in a row. Spade well rotted manure into the soil around the plants. Keep them clean from weeds and grass. Do not make heavy cuttings till the plants are three years old.

Remove the seed stalks as they appear.

Viennese Salad Dressing

One cupful of thick sour cream, one tablespoonful of sugar, a salt-spoonful of salt.

Whip the cream until it is thick and then stir in vinegar enough to give the dressing a slightly tart flavor. This is delicious for chopped cabbage, lettuce or any green salad.

Sour Cream Pie

One cupful of thick sour cream, one cupful of sugar, one-half cupful of seeded raisins, cut in two, two eggs, one-half teaspoonful of cinnamon, one-fourth teaspoonful of cloves, a pinch of salt. Use the whites of the eggs for a meringue.

Beat the yolks of the eggs with a Dover egg beater. Add the sour cream. Mix the cinnamon, cloves, salt and sugar thoroly, and add them to the eggs and cream. Beat thoroly with the egg beater, then add the raisins. Use this mixture as the filling for a pie and bake slowly.

For the invalid

as well as
those in
perfect
health



Baker's

Cocoa

is an ideal
food
beverage,



pure,
delicious
and
wholesome.



Walter Baker & Co. Ltd.
ESTABLISHED 1780 DORCHESTER, MASS.



Which Will You Have

Here are two cans of Paint.

Both are exactly the same size.

One will cost you \$2.75 per gallon. The other will cost perhaps as little as \$1.75 per gallon, but the Mound City Horse Shoe Brand at \$2.75 per gallon will cost you less in the end.

Reason? Simple enough.

Because a gallon of "Horse Shoe Paint" will cover a larger surface than the cheaper grade, and fewer gallons are required for the job. By actual test you will find that six gallons of "Horse Shoe Paint" (enough for two coats on a house measuring 2100 square feet) will go as far as ten gallons of the \$1.75 kind.

In other words, you invest \$16.50 in "Horse Shoe Paint," against \$17.50 in the cheaper grade.

Not only this, but the Horse Shoe Brand is bound to outwear the other two to one, making the Horse Shoe Brand far more economical in the end.

You save on the total cost of material. You save in labor, because of the long life of the Horse Shoe Brand.

You save once more in the satisfaction of knowing that your property is beautified and protected with the highest quality of painting material that modern skill and science has yet developed.

AGAIN!! Mr. Property Owner—
Which will you have?

Mound City "Horse Shoe Brand" Paint

Sold only by

Paint, Hardware, Lumber and Drug Stores

Write for name of your nearest dealer

Mound City Paint & Color Co.

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